FOCUSED SITE INSPECTION PRIORITIZATION
SITE EVALUATION REPORT

MANSFIELD PRODUCTS COMPANY
MANSFIELD, RICHLAND COUNTY, OHIO

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1.0 INTRODUCTION

The Ohio Environmental Protection Agency (Ohio EPA), has evaluated the Mansfield Products Company (MPC) Site in Mansfield, Richland County, Ohio, as a potential candidate for the National Priorities List (NPL) and has prepared this site evaluation report. Using the Hazard Ranking System (HRS), Ohio EPA performed focused site inspection prioritization (FSIP) activities for the site to determine whether, or to what extent, it poses a threat to human health and the environment. This report presents the results of Ohio EPA's evaluation and summarizes the site conditions and targets pertinent to the migration and exposure pathways associated with the site. Information was obtained from a screening site inspection (SSI) report prepared by Ecology and Environment (E&E); Ohio EPA files; an Ohio Department of Natural Resources (ODNR) report; and conversations with and reports provided by White Consolidated Industry, Inc. (WCII) personnel. Ohio EPA also conducted a site reconnaissance at the MPC Site on May 19 and August 9, 1995, to gather more information about the Site.

This report has six sections, including this introduction. Section 2.0 describes the Site and provides a brief site history. Section 3.0 describes the findings of a site reconnaissance conducted by Ohio EPA. Section 4.0 provides information about previous investigations conducted at the Site. Section 5.0 provides information about the four migration and exposure pathways (groundwater migration, surface water migration, soil exposure, and air migration) that can be scored. Section 6.0 summarizes conditions at the Site. References used in the preparation of this report are listed at the end of the text. The appendix to this report contains photographs taken during the site reconnaissance. In addition, attachments to this report include: identification of SSI sampling locations and provides the sampling analytical results; a photograph log from the site reconnaissance; and analytical results from samples collected from MPC's groundwater recovery system.

2.0 SITE DESCRIPTION AND HISTORY

The MPC Site is located on the east side of downtown Mansfield, at 246 East Fourth Street, Richland County, Ohio (See Figure 1). Rocky Fork Creek runs through the Site, dividing it

into northeastern and southwestern parcels. The topography of the surrounding area is flat. Land use in the immediate area is primarily industrial. Residential areas, including a number of schools, lie just outside of a 1/4 mile radius of the Site.

Westinghouse Electric Corporation (WEC) purchased the Site in 1917 from Baxter Stove, which manufactured stoves. There is no information concerning plant operations from 1917 to 1936. During WEC's ownership and operation of the Site, the plant was known as Mansfield Products Company. WCII purchased the MPC Site from WEC in 1975 for the manufacturing and finishing of appliances. After WCII acquired the plant in 1975, the facility was called the WCII-Mansfield Plant. Only a small tract of land including the IWTP operations building is currently owned by WCII. The majority of the Site is owned by Mansfield Commerce Center, and is used for packaging and warehousing.

From 1936 until 1990, washer, dryers, and other home appliances were manufactured on-site. The plant was closed on December 14, 1990, due to plant inefficiency and operating costs associated with the large, antiquated plant. Operations at the Site included: milling aluminum, chemical etching, electroplating metals, an alkaline phosphate pre-paint surface preparation step to enhance porcelain enamel deposition, painting, enamel-coating, and assembly. Two covered overhead bridges that lead across Rocky Fork Creek contained conveyer belts for transporting parts and completed appliances from the different stages of coating and assembly that occurred in different buildings. Chemicals used in the manufacturing process included nickel, chromium, zinc and copper plating solutions, sodium cyanide, chromic and sulfuric acids, paints and enamel, and polypropylene pellets.

In a 1981 Industrial Waste Survey conducted by Ohio EPA, Mansfield Products revealed that it generated 150 tons of dried electroplating sludge and 5 tons of enamel durst each month. The wastes were disposed of at a hazardous waste landfill. According to the 1981 survey, eight barrels of paint waste generated each month were sent to an incinerator. In addition, 2,000 gallons of electroplating liquids generated each month were disposed of off-site in an unspecified location.

Electroplating operations at the MPC Site also generated non-contact cooling and contact-rinse wastewater. The non-contact cooling water, along with runoff from the roof, was discharged to the Rocky Fork Creek through outfall 002, the location of which is not known. The contact

rinsed wastewater, which contained heavy metals and inorganics such as nickel, zinc, copper, chromium, lead, cyanide, and chloride, was discharged into the Rocky Fork Creek through outfall 001. Outfall 001 is located on the south bank of Rocky Fork Creek. From 1936 to 1960, treatment of this contact wastewater was not required and the wastewater was released directly into Rocky Fork Creek.

In addition to outfalls 001 and 002, which discharged the largest quantities of wastewater, the Mansfield Products plant had 10 other outfalls. Three of these outfalls discharged non-contact cooling water. The other seven (7) were connected to storm drains or roof drains and discharged principally during heavy rains. The locations of the 10 additional out are no longer known.

In response to new requirements that all contact wastewater be treated prior to discharge to public waterways, Mansfield Products constructed an industrial wastewater treatment plant (IWTP) on site in 1960 (See Figure 2). The treatment process started with a pH equilibrating tank in which contact wastewater from the plant processes was initially mixed with limewater to control the pH. The water was then transferred to one of two cylindrical holding tanks. In the first holding tank, heavy metals were allowed to oxidize and settle out. The resulting sludge was then drawn off the bottom for final drying and shipping off-site. Water drawn from the top of the first holding tank was sent to the clarifier in the second holding tank. From there, the water was flushed into the creek through outfall 001.

After the creation of Ohio EPA in 1972, permits were required for any wastewater discharge through outfalls even after treatment. One National Pollutant Discharge Elimination System (NPDES) permit covered all listed wastewater discharges at the Site. Quarterly monitoring was performed on the five wastewater outfalls that regularly discharge non-contact and/or contact cooling water. As part of the application process for an NPDES permit, an investigation of the MPC Site was conducted in August 1975 by Ohio EPA and the United States Department of the Interior (USDOI), Fish and Wildlife Service. The site investigation revealed wastewater containing high levels of chromium discharging from one outfall, emulsified oil and grease discharging from a storm drain, and foam being expelled from outfall 001. After the site investigation, USDOI recommended that Ohio EPA not issue an NPDES permit to Mansfield

Products unless continuous monitoring, including bioassays, would be required.

In 1976, Ohio EPA issued Mansfield Products its first NPDES permit. The requirements included quarterly monitoring of effluent for levels of copper, chromium, cyanide, nickel, and oil and grease. The NPDES permit was issued for five years, and after that time, Mansfield Products would have to apply for review and renewal of the permit. In July 1977, Mansfield Products filed two application to request modifications of its NPDES permit. Ohio EPA rejected the request for the first modification, which would have decreased effluent limitations for copper and would have increased limitations for nickel and cyanide. The other modification, the contents of which are not known, was approved by Ohio EPA in September 1977.

In 1981, Mansfield Products spent $300,000 to improve and expand their IWTP. The five-year permit issued in 1976 was renewed for another five years in 1981. Beginning in 1985, Mansfield Products had to apply for renewal annually because of new regulations. All modifications of regulations from 1985 to 1988 were changes in monitoring or reporting requirements. The most recent permit expired in 1993.

Until 1981, the 150 tons of dried electroplating sludge generated each month in the IWTP was disposed of in a hazardous waste landfill. The sludge contained heavy metals and inorganics, such as cadmium, hexavalent chromium, nickel, and cyanide. In 1981, Ohio EPA granted Mansfield Products a temporary exclusion for disposal of the sludge in a sanitary landfill because all heavy metal and inorganic levels were below toxicity limits, and the metals and inorganics had low migration potentials. U.S. EPA retested the sludge in 1983, and in June 1985 decided to make this exclusion permanent. The decision was based upon the low migration potential of the toxic materials involved and the non-hazardous levels of arsenic, barium, lead, mercury, selenium, silver, oil and grease, cyanide, and total carbon levels detected in the sludge. The exclusion included all electroplating sludge except that which contained nickel. From 1981 to the closing of the plant, the dried sludge excluding the nickel waste was disposed of in the Richland County Landfill. The disposal site for the sludge waste containing nickel is not known.

The five (5) tons of waste enamel dust generated each month consisted of excess heavy dust from enamel coating of appliances. This dust, which was found to contain unsafe levels of barium in toxicity tests conducted in 1980, was collected in floor sweepings in the enamel-coating area. In 1980, U.S. EPA declared the dust a hazardous waste that had to be disposed of in a hazardous

waste landfill. In 1984, Mansfield Products generated two 55-gallon drums of the enamel dust each week. New toxicity tests, performed by Mansfield Products in 1984, found that all materials containing barium fell within safe limits. In 1984, Mansfield Products asked Ohio EPA for permission to dispose of the dust in a Type II sanitary landfill. Based on the tests conducted in 1984, Ohio EPA approved an exclusion of the enamel dust and declared the dust a non-hazardous waste. After 1984, Mansfield Products was required to monitor the dust regularly to ensure that all parameters tested for fell within safe levels.

NPDES parameter requirements were exceeded between 1977 and 1979. The excesses in this period included levels of total chromium, cyanide, nickel, and total suspended solids. After the improvements to the IWTP in 1981, parameter violations became less frequent, but still occurred. A quarterly monitoring report in May 1983 revealed excess amounts of nickel in one outfall on two separate days. Additional excesses included a small oil discharge from an outfall following a leak into a storm sewer in 1985, and a xylene discharge found in the June 1987 quarterly monitoring report. The pH of the effluent from outfall 001 dropped for a short time in July 1987, when a pickle acid tank overflowed. Mansfield Products brought a number of these violations to the attention of Ohio EPA in letters dated June 1979 to August 1987, and stated its plans for correcting the problem.

In 1968, a cyanide heat treating process was installed at the MPC Site. The unit was used to harden washing machine transmission gears. In 1977, it was replaced with an induction hardening unit. The equipment was placed in storage for possible reuse. In 1983, the cyanide pot was removed from storage and placed in an underground concrete vault in the B building (demolished) which formerly contained a cyanide wastewater treatment tank. The unit was lowered into the vault and covered with a concrete cap. In 1988, WCII resolved to remove the cyanide pot and remediate the storage area. Because the cyanide had been stored on-site longer than 90 days, the storage area was subject to a RCRA closure.

Final approval of the closure plan for the cyanide pot and storage pit was received from the U.S. EPA on February 7, 1989. The cyanide pit was subsequently cleaned and closed according to the approved closure plan. In a correspondence dated February 7, 1990, Ohio EPA noted that all activities relating to closure of the hazardous waste cyanide pit had been satisfactorily completed.

WCII owned and operated ten (10) underground storage tanks (UST). Three of the tanks had

capacities of 20,000 gallons and contained fuel oil. The other tanks had capacities and contents as follows : Xylene (10,000 gal.), Epon Thinner (10,000 gal.), Safety Solvent (10,000 gal.), Grease (10,000 gal.), Waste Oil (6,000), Gasoline (1,000 gallons), and 1,1,1-Trichloroethane (10,000 gal.). A tank farm containing eight (8) of the ten (10) underground storage tanks was located on the north side of East Fifth Street adjacent to the IWTP.

The 1,1,1-Trichloroethane tank was removed in 1985. A tank removal program for the remaining nine (9) tanks was initiated on September 3, 1988. The last tank was removed on November 22, 1988. Removal of contaminated soils from the tank farm was initiated in November 1988. Soils were removed to a depth of 14 feet, covering an area 90 feet by 45 feet. The entire extent of soil contamination was not removed in order to preserve the structural integrity of the surrounding buildings and roadways. Soil and groundwater samples collected from the excavation indicated the presence of VOCs. The excavation was subsequently backfilled with sand to facilitate collection of contaminated groundwater.

In November 1990, WCII initiated a ground water recovery project in the area of the tank farm investigation. In December 1990, the operation of the system was approved by the City of Mansfield, and equipment for the pumping operation was installed. Initially large volumes of water (50,000 GPD) were discharged to the sewer system. The volume subsided to less than 1,000 GPD within one week. Sampling of the effluent was conducted by WCII at a rate of two samples per week as set forth by the City of Mansfield. Based on the levels of contaminants in the effluent, the city initially required WCII to treat effluent prior to discharge into their sewer system. After further consideration, the City of Mansfield concluded that treatment of the effluent was not necessary. The groundwater recovery system is presently operational.

Mansfield Products required air emission permits for several of its operations and pieces of equipment, such as coal and natural gas boilers, painting and enamel-coating lines, sandblasting, finishing, and pickling. These air emission permits, which expired every three years, were held from 1974 until the plant closed in 1990.

3.0 SITE RECONNAISSANCE

Site reconnaissance inspections were conducted on May 19 and August 9, 1995, by Ohio EPA personnel. The areas to the west and south appear to be composed primarily of industrial and

commercial zones. Residential areas lie approximately 500 feet southeast of the Site. First Avenue acts as the eastern boundary of the MPC Site. Fifth Street divides the Site into north and south portions. The western boundary of the Site is formed by fences. The adjoining property northwest of the Site appeared to be vacant and was overgrown with weeds. The northern boundary of the Site is formed by Eclipse Street.

The Rocky Fork Creek bisects the Site flowing from northwest to southeast. The creek is approximately 20 to 30 feet wide and nearly two feet deep in most locations. The water is dark brown to greenish is color. Outfall 001 has been concreted; however several other outfalls are still connected to roof drains and storm sewers.

The Site consists of several former manufacturing buildings which are currently owned by Mansfield Commerce Center. The buildings are used for packaging and warehousing. WCII owns only a small tract of the land containing the IWTP control building and the groundwater recovery system. The IWTP was dismantled in 1990, leaving only the control building in tact. The northern portion of the Site contains two contiguous buildings (designated the Y, and Z buildings). The X building was demolished following decommissioning of the facility. The buildings are currently being used for warehousing. The other large building is located on the southern portion of the Site, and is designated the N building. The IWTP was located in the south-central part of the Site, east of the N building. The area around the IWTP is fenced on the south, east and north Sites. Waste sludge preparation and storage occurred in the N building. Three rectangular, below-ground, open-topped, pH equilibrating tanks have been removed and filled. These tanks accepted wastewater from the plant and sent the pH equilibrated water to two cylindrical holding tanks, which were located north of the IWTP control building. The holding tanks have been removed.

The IWTP control building houses a holding tank for the groundwater recovery system. The recovery system is located south of the IWTP control building and north of Fifth Streetin a fenced area within the former tankfarm excavation. The system consists of two groundwater collection wells which pump to the aforementioned storage tank. The collected water is discharged by gravity flow into the Mansfield sanitary sewer.

Several semi-trailers were parked on a cinder covered lot in the southeast corner of the Site. This parking lot previously served as a coal storage area. Several outfalls were visible on both the

north and south banks of the creek. Outfall 001 is located on the south side of the creek, north of the IWTP area. Two covered overhead bridges, containing conveyor belts for transferring incomplete appliances and parts from the different stages of assembly and coating, used to span the Rocky Fork Creek. The conveyor belts were removed in 1990.

Six aboveground polypropylene pellet storage tanks formerly located along the west side of the N building have been removed.

4.0 PREVIOUS INVESTIGATION

Previous investigations at the MPC Site include compliance inspections, a preliminary assessment (PA), Underground Storage Tank (UST) removal, RCRA closure of a cyanide pit, and an SSI. Ohio EPA, Division of Solid and Hazardous Waste Management (DSHWM) conducted numerous compliance inspections at the MPC Site. A PA was completed at the Site by Ohio EPA, Division of Emergency and Remedial Response (DERR) on March 19, 1984. No sampling was conducted by Ohio EPA. Ohio EPA, DERR, recommended that a Field Investigation Team (FIT) inspection was unwarranted and state priority was to be determined after analytical data for the Site became available.

On September 25, 1990, E&E conducted an SSI at the Site. FIT collected five soil samples and four sediment samples at the MPC Site. Soil samples S6, S7, and S8 were surface samples collected on-Site. Soil sample S6 was collected from the top of the bank of the Rocky Fork Creek, approximately 100 feet north of the IWTP holding tanks. Soil sample S7 was collected from the bank of the Rocky Fork Creek approximately 5 feet north of the N building, in an area of surface runoff. Soil sample S8 was collected under the east overhead bridge, 12 feet south of Z building. Soil sample S9 was a subsurface sample collected on-site at a depth of approximately 1 foot. Sample S9 was collected under the west overhead bridge on the north bank of Rocky Fork Creek. Soil sample S1 was collected off-site in North Lake Park, located approximately 1.5 miles west of the Site. Sample S1 was collected for use as a potential background sample (see Appendix B).

Sediment sample S5 was collected approximately 200 feet upstream of the western boundary of the Site, in Rocky Fork Creek. Sediment samples S3 was collected 25 feet downstream from outfall 001, within 8 feet of the bank. Sediment sample S4 was collected on the north bank of the

creek, approximately 10 feet west of the overhead bridge on the east side of the IWTP. Sediment sample S2 was collected from just below the waterline at a location approximately 200 feet downstream of outfall 001 under the First Avenue bridge. See attached maps of sample locations.

The FIT sampling event detected hazardous substances at elevated concentrations. TCL compounds and TAL analytes detected in on-site soil/sediment samples at levels above those in background and upgradient samples include: 2-methylnaphthalene (3,300 ug/kg), PCB Aroclor 1260 (estimated 2,600 ug/kg), phenanthrene (11,000 ug/kg), fluoranthene (estimated 13,000 ug/kg), pyrene (5,800 ug/kg), benzo[a]anthracene (3,300 ug/kg), benzo[b]fluoranthene (estimated 1,000 ug/kg), barium (1,310 mg/kg), lead (926 mg/kg), mercury (0.38 mg/kg), nickel (1,680 mg/kg), cobalt (124 mg/kg), chromium (estimated 679 mg/kg), and zinc (estimated 1,030 mg/kg) (see Appendix B).

Sampling has also been conducted in conjunction with the RCRA-closure of the cyanide pit. Analytical results of rinseate samples collected after cleaning the concrete pit show a concentration of total CN at 0.14 mg/l. The results indicated that RCRA closure requirements were met.

WCII has also conducted sampling and analyses of groundwater collected by their groundwater remediation system. Analyses of the samples indicated that the following VOCs are present in groundwater: Ethylbenzene (8.81 mg/l), Methyl isobutyl ketone (1.54 mg/l), 1,1,1-Trichloroethane (59 ug/l), 1,1-Dichloroethane (106 ug/l), Vinyl Chloride (36 ug/l), Toluene (101 ug/l), Tetrachloroethene (62 ug/l), and Xylene (11.2 mg/l) (see Appendix C).

5.0 MIGRATION AND EXPOSURE PATHWAYS

This section describes the four migration and exposure pathways associated with the MPC Site. Section 5.1 discusses the groundwater migration pathway; Section 5.2 discusses the surface water migration pathway; Section 5.3 discusses the soil exposure pathway; and Section 4.4 discusses the air migration pathway.

5.1 Groundwater Migration Pathway

The city of Mansfield is located in the glaciated area of north-central Ohio, and is underlain by valley-train outwash along Rocky Fork Creek and by adjacent areas of a silty till. The Rocky Fork subbasin, which contains the creek, runs through the northeastern section of the city of Mansfield. The Rocky Fork Subbasin is composed of postglacial alluvium and valley-train outwash overlying a layer of shale and silt-stone.

Glacial drift in the area of the Site is the result of the Wisconsonian glaciation. In the Rocky Fork subbasin, which is approximately 1/2 mile wide, the outwash deposits composed of equal parts of sand and clay with gravel overlie shale and siltstone of the Pleasant Valley Member. The pleasant Valley Member is at least 80 feet in thickness in the Mansfield area.

In the areas northeast and southwest of the Rocky Fork subbasin, till that is sparingly pebbly and predominantly silty is composed of equal amounts of sand and clay. This till, the Hayesville Till, is approximately 10 feet thick and overlies a layer of sandstone, the Black Hand Member. The Pleasant Valley Member, which is a shale and siltstone layer, is overlain by the Black Hand Member. Together the two members compose the Cuyahoga Formation. Consolidated bedrock composed of limestone, shale, and sandstone from the Waverly and Marville formations, lies underneath the Cuyahoga Formation.

Well logs of the area of the subbasin indicate a layer of sand, clay and gravel approximately 100 feet above the fractured shale and siltstone layer. The private wells located in the Rocky Fork subbasin are set into the fractured shale and siltstone layer at a depth of approximately 120 feet.

Some well logs in the area adjacent to the Rocky Fork subbasin indicate a surface clay later ranging in thickness from 6 to 22 feet, while others indicate a clay and sand layer near the surface ranging in thickness from 5 to 30 feet. Most of the private wells in the are outside the subbasin are set into sandstone at depths between 46 and 113 feet. The sandstone overlies the fractured shale and siltstone layer which is between 40 and 200 feet in thickness. Well logs of this area indicate that the depth to bedrock is between 5 and 100 feet (see Appendix F).

In the Rocky Fork subbasin, the fractured shale and glacial till are both aquifers. The shale aquifer and the unconsolidated till are considered to be hydraulically interconnected because there

is no continuous clay or confining layer between these two layers.

Outside of the subbasin, the surface clay layer inhibits downward migration of surface runoff, but the clay layer is discontinuous. Beneath this clay layer, an aquifer exists in each of the three layers, the unconsolidated material, the permeable sandstone, and the fractured shale. These three aquifers are considered to be hydraulically interconnected and form the aquifer of concern (AOC), because there is no confining layer between the unconsolidated material and the sandstone aquifer or between the sandstone and the shale aquifer. The private wells in the unconsolidated deposits also show the interconnection between all three aquifers. The depth to the AOC is as shallow as 30 feet. The nearest well used for drinking water that draws from the AOC is approximately 3/4 miles east of the Site; the private wells in the vicinity of the Site are used for industrial purposes only. Based upon area topography, groundwater flow direction in the vicinity of the Site is presumed to be toward Rocky Fork Creek.

Releases of Ethylbenzene (8.81 mg/l), Methyl Isobutyl Ketone (1.54 mg/l), 1,1,1-Trichloroethane (59 ug/l), 1,1-Dichloroethane (106 ug/l), Vinyl Chloride (36 ug/l), Toluene (101 ug/l), Tetrachloroethene (62 ug/l), and Xylene (11.2 mg/l) to groundwater have been documented (see attachment to report). The releases are presumed to have originated from the underground storage tanks and associated piping.

The population potentially affected by the migration of TCL compounds and TAL analytes from the Site includes approximately 9,200 persons within a 4-mile radius of the Site who obtain drinking water from the AOC. The city of Mansfield is supplied by water from a municipal well field that is located approximately 5 miles southwest of the MPC Site. Therefore, the population served by Mansfield municipal water system (approx. 57,000) was not included in the target population. However, within the area served by the Mansfield municipal water system, there are a number of independent community wells that serve the subdivisions and/or trailer parks in which they are located . Also, many residents living outside the area served by Mansfield's public water supply obtain drinking water from private wells. The potentially affected population was calculated by determining total population within a 4-mile radius (66,207) and subtracting the number of residents served by the City of Mansfield public water supply (see Appendix D).

5.2 Surface Water Migration Pathway

The MPC Site is located in the 10 and 50 year flood plain. Surface water from the Site drains directly into the Rocky Fork Creek. Rocky Fork Creek runs through the Site for a distance of approximately 500 feet. Based on data collected by Ohio EPA during June - October 1993, the segment of the Rocky Fork Creek which passing through MPC is in non-attainment of the existing Warmwater Habitat aquatic life designation. It should be noted that the Rocky Fork Creek is also degraded upstream of the MPC Site due to the heavily industrialized nature of the creek corridor.

The Rocky Fork Creek flows into the Black Fork Mohican River approximately 12.5 miles downstream from the MPC Site. No surface water intakes for drinking water or irrigation exist within 15 miles downstream of the MPC Site. No significant amount of wetland frontage was identified in database searches conducted by Ohio EPA and ODNR. No information is available regarding fish production along the surface water pathway. The Rocky Fork Creek and Black Fork Mohican River are assumed to be used for recreational purposes. No endangered species are known to be present in the Site area (see Appendix E).

An unknown volume of untreated wastewater was discharged to the Rocky Fork Creek between 1936 to 1960. No sampling of surface water is known to have been conducted at the Site. Analysis of FIT-collected sediment samples from Rocky Fork Creek revealed SVOCs and metals, including copper and mercury, at concentration above those in the upgradient samples. Copper was one of the parameters monitored under MPC's NPDES permit, and is commonly used in electroplating. Copper was detected in sediment beneath outfall 001. MPC used paints containing Mercury (as a fungicide) to coat appliances. Mercury was detected on the banks of the creek.

5.3 Soil Exposure Pathway

Access to the Black Fork Creek is unrestricted. The areas located downstream of the facility are used by the public for recreation.

The majority of the MPC Site is unfenced. No residences, daycare facilities, schools, or resources are located within 200 feet of the MPC Site. Currently, approximately fifty (50) part- and full-time employees work on site in warehousing and packaging operations, but contact with

contaminated soil is unlikely because the areas of contamination are vegetated or subsurface, and no regular work is performed on site outside of the warehouse. The population living within one (1) mile of the Site is approximately 7,738 persons (see Appendix D)

5.4 Air Migration Pathway

The MPC Site operated potential air contaminant sources such as boilers, painting and finishing processes, and pickling operations. Ohio EPA and U.S. EPA granted permits and monitored each air pollution source. All air pollution sources have been eliminated.

No odors or airborne particulate were observed during the site reconnaissance on May 19, and August 9, 1995. It is unlikely that hazardous substances could migrate to the air from the contaminated soil because the majority of the Site is covered with asphalt, concrete, buildings, or vegetation.

6.0 SUMMARY

The Site began operations as a stove manufacturing plant in 1917. From 1936 to 1990, the Site was used to produces washers, dryers, and other home appliances. Production ceased in 1990, and the property was leased to warehousing and packaging companies. During a 1990 SSI, soil and sediment sampling revealed the presence of elevated levels of SVOCs and metals including mercury and copper. Additionally, groundwater sampling in conjunction with a UST tankfarm removal shows the presence of several VOCs, including Vinyl Chloride. Approximately 9,200 people are served by public and private wells within a 4-mile radius of the Site.

No surface water intakes exist within 15 miles downstream of the Site. Fish consumption from the Rocky Fork Creek and the Black Fork Mohican River is unknown. All surface water use is assumed to be recreational. No residences, daycare facilities, or schools are within 200 feet of the Site. Approximately fifty employees currently work at the Site. Site access is unrestricted. The majority of the Site is either vegetated, covered in concrete or gravel, or a building, making contact with contaminated soil and migration to air unlikely. The total population within a 4-mile radius of the Site is 66,207.

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APPENDIX A

Site Reconnaissance Photograph Log

Photograph No: 1 **Date:** May 19, 1995

Orientation: Facing south from north side of Rocky Fork Creek

Description: N Building

Photograph No: 2 **Date:** May 19, 1995

Orientation: South from north side of parking lot.

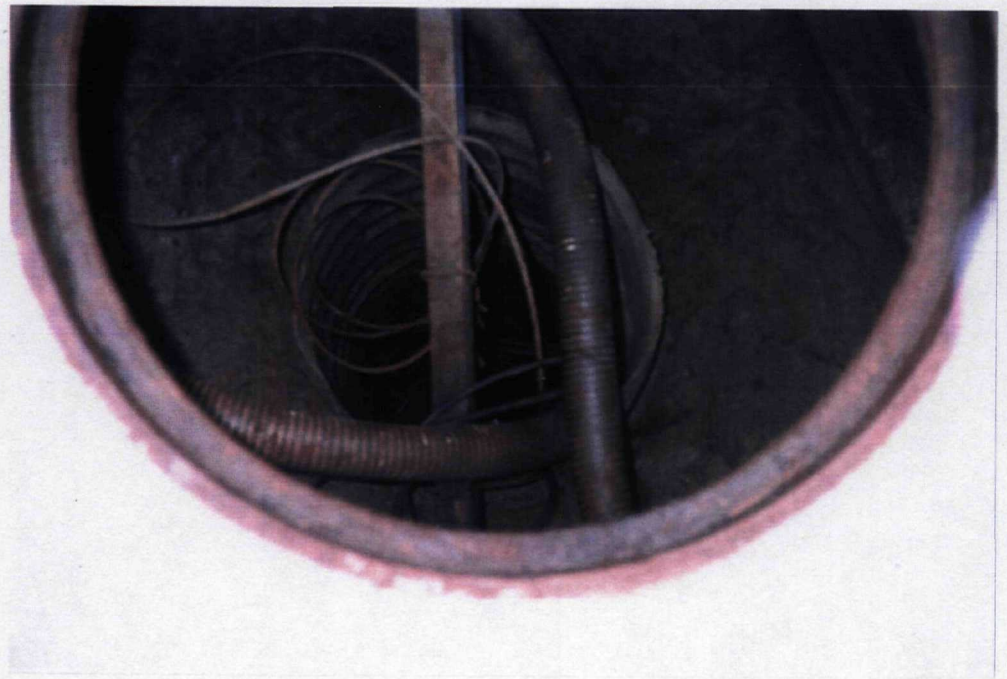
Description: IWTP control building with former tank foundations in foreground

Photograph No: 3 **Date:** August 9, 1995
Orientation: northeast.
Description: View of IWTP control building.

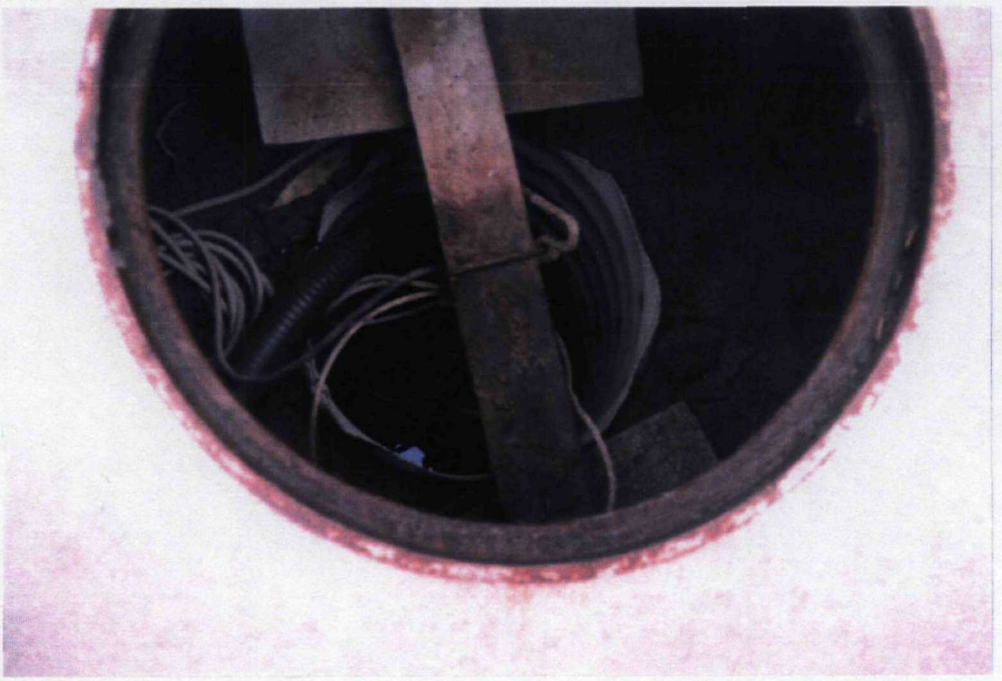
Photograph No: 4 **Date:** August 9, 1995
Orientation: north
Description: Former IWTP treatment tanks filled with concrete.

Photograph No: 5 **Date:** August 9, 1995
Orientation: west
Description: Groundwater removal system in former tankfarm excavation area.

Photograph No: 6 **Date:** August 9, 1995
Orientation: east
Description: Groundwater removal system in former tankfarm area.



Photograph No: 7 **Date:** August 9, 1995
Orientation: N/A
Description: Downhole view of groundwater collection well 1.

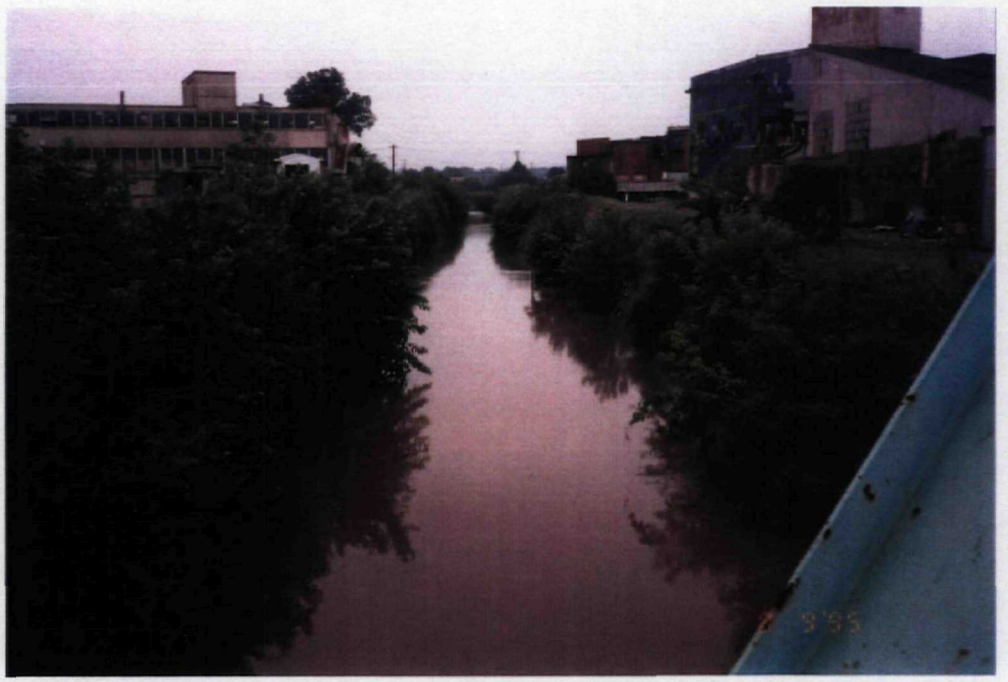


Photograph No: 8 **Date:** August 9, 1995
Orientation: N/A
Description: Downhole view of groundwater collection well 2.

Photograph No: 9 **Date:** August 9, 1995

Orientation: northeast

Description: View of cinder covered parking lot formerly used as coal storage area.



Photograph No: 10 **Date:** August 9, 1995

Orientation: West view from the First Street Bridge.

Description: View of the Rocky Fork Creek. The Y building and Z building are to the right (north) of the Creek. The N building is to the left (south). Creek flows east.

Photograph No: 11 **Date:** August 9, 1995

Orientation: East view from First Street Bridge.

Description: Rocky Fork Creek downstream of MPC site.

Photograph No: 12 **Date:** August 9, 1995

Orientation: Northwest from First Street.

Description: Z (foreground) and Y (background) Buildings.

Photograph No: 13 **Date:** August 9, 1995

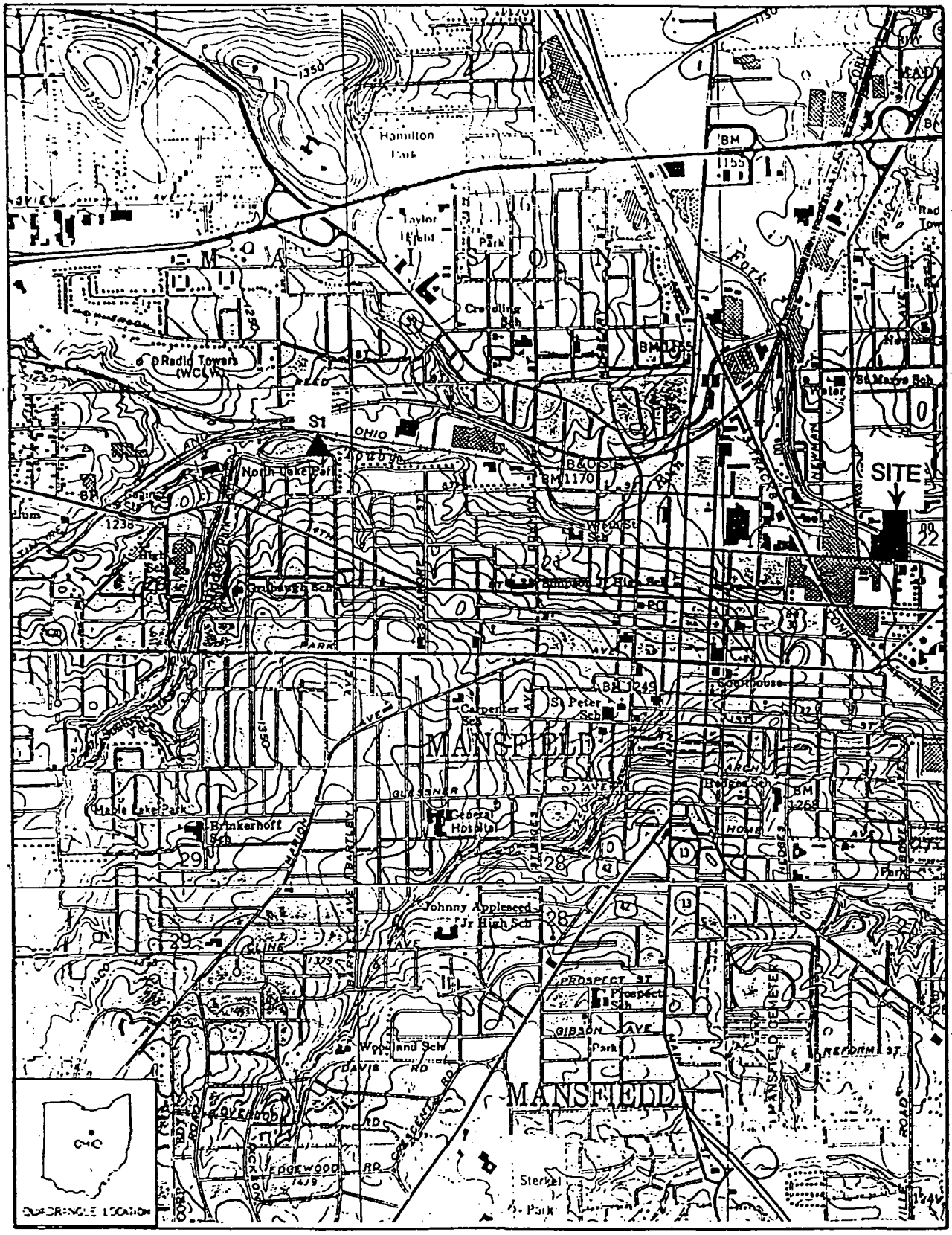
Orientation: north

Description: Foundation of the former X Building.

Appendix B

APPENDIX B

Site Investigation Soil and Sediment Sampling Locations and Analytical Results



SOURCE: USGS.

SCALE
0 0.5 1 MILE

LEGEND
▲ SOIL ▼ SEDIMENT

FIGURE 3-3 ADDITIONAL SOIL SAMPLING LOCATION

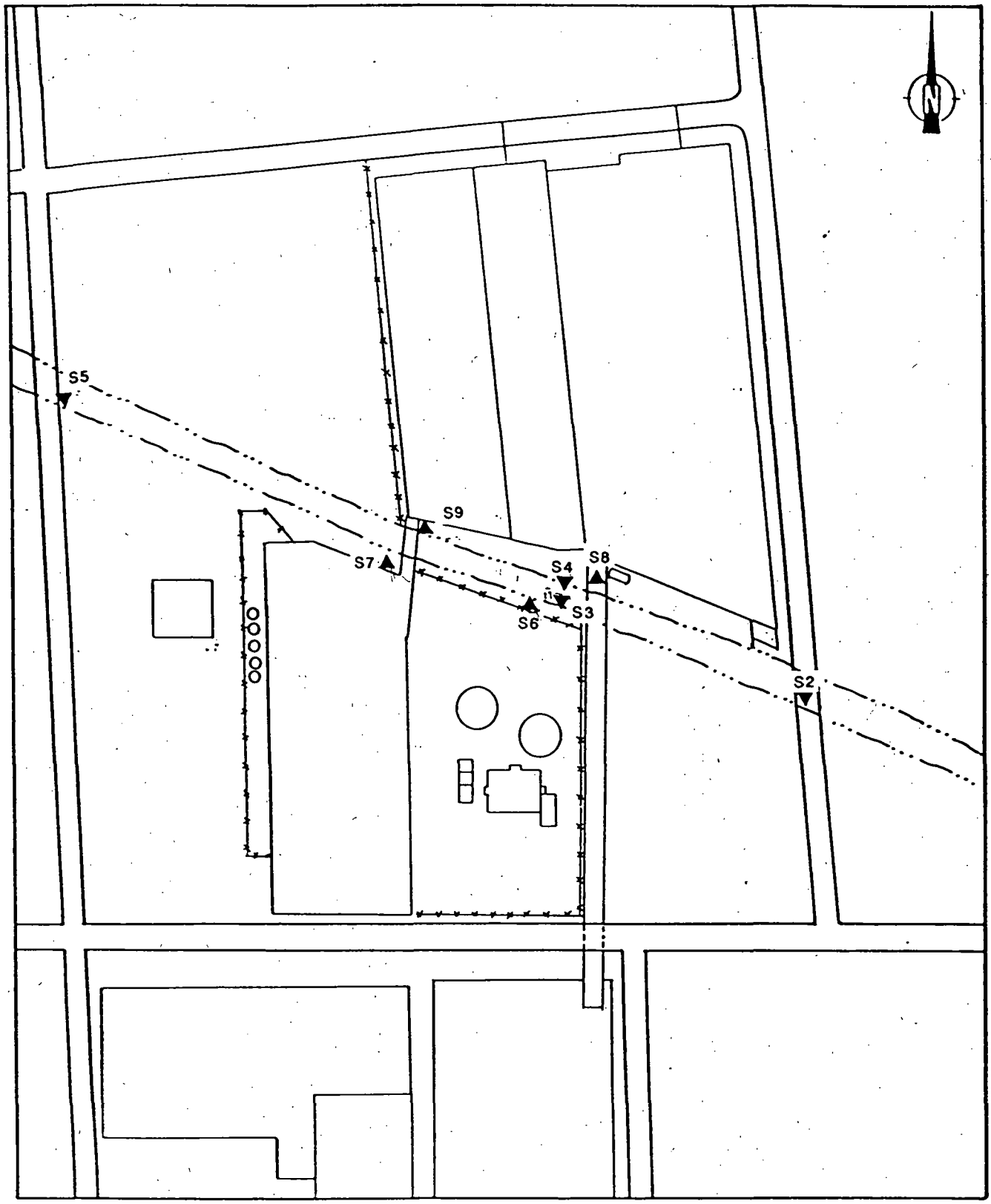


FIGURE 3-2 SOIL/SEDIMENT SAMPLING LOCATIONS

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
PIT-COLLECTED SOIL/SEDIMENT SAMPLES

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9
Date	9/25/90	9/25/90	9/25/90	9/25/90	9/25/90	9/25/90	9/25/90	9/25/90	9/25/90
Time	1630	1230	1400	1445	1520	1230	1300	1330	1345
CLP Organic Traffic Report Number	EH042	EH043	EH044	EH045	EH046	EH047	EH048	EH049	EH050
CLP Inorganic Traffic Report Number	MEHA35	MEHA36	MEHA37	MEHA38	MEHA39	MEHA40	MEHA41	MEHA42	MEHA43
Compound Detected (values in ug/kg)									
Volatile Organics									
methylene chloride	--	--	--	--	--	23	1J	--	1J
acetone	--	--	--	11J	--	--	--	--	--
ethylbenzene	--	--	--	--	--	--	4J	--	--
xylenes (total)	--	--	--	--	--	--	14J	--	--
Semivolatile Organics									
naphthalene	--	--	--	--	--	1,800	1,200	340J	130J
2-methylnaphthalene	--	--	--	--	--	3,200	810	540J	160J
acenaphthylene	--	--	--	--	--	--	280J	--	13J
acenaphthene	--	--	--	--	--	--	770	--	64J
dibenzofuran	--	--	--	--	--	620J	1,000	--	60J
fluorene	--	--	--	--	--	--	900	--	59J
phenanthrene	550J	990	1,200	2,500	750J	1,300	11,000	330J	730J
anthracene	180J	190J	--	490J	--	--	1,300	--	170J
di-n-butylphthalate	--	--	--	--	--	100J	--	--	--
fluoranthene	890	1,300	1,600	4,000	1,400	900	13,000DJ	380J	--
pyrene	550J	790J	810J	2,100	780J	380J	5,800	220J	1,100J
benzo[a]anthracene	340J	490J	390J	1,200	360J	430J	3,300	160J	840J
chrysene	340J	480J	610J	1,000	690J	420J	3,700	250J	560J
bis(2-ethylhexyl)phthalate	--	230J	--	240J	240J	--	200J	150J	--
benzo[b]fluoranthene	410J	900	920	2,400	1,000J	900	6,000	370J	860
benzo[k]fluoranthene	610J	--	--	--	--	--	--	--	460J
benzo[a]pyrene	410J	510J	500J	1,200	520J	500J	2,800	200J	420J
indeno[1,2,3-cd]pyrene	340J	420J	350J	1,100	460J	290J	2,600	210J	340J
dibenzo[a,h]anthracene	--	--	--	230J	--	--	730	--	140J
benzo[g,h,i]perylene	510J	530J	450J	1,300	530J	440J	2,800	250J	440J
Pesticides/PCBs									
Heptachlor epoxide	--	--	--	--	--	--	140J	--	--
4,4'-DDE	--	--	--	--	--	--	--	--	71J
Aroclor 1242	--	3,400X	5,300X	6,000X	5,600X	--	--	--	--
Aroclor 1260	--	--	--	--	--	1,200XJ	2,600XJ	--	--

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5 Upstream	S6	S7	S8	S9
TICs†									
1-methyl naphthalene (90-12-0)	--	--	--	--	--	2,000J	500J	400J	1,000J
9-nitroso-9h-carbazole (2788-23-0)	--	--	--	--	--	--	1,000J	--	--
1,4-dimethyl naphthalene (571-58-4)	--	--	--	--	--	--	--	200J	--
7h-benzfdelanthracen-7-one (82-05-3)	--	--	--	--	--	--	600J	--	600J
Analyte Detected (values in mg/kg)									
aluminum	8,410	3,060	3,670	2,840	3,540	4,240	7,240	9,570	6,800
antimony	5.6BNJ	3.5BNJ	3.3BNJ	R	R	17.7NJ	7.6BNJ	46.2NJ	32.9NJ
arsenic	16.2NJ	26.1NJ	10.1NJ	9.7NJ	10.3NJ	35.8NJ	18.3NJ	26.4NJ	19.5NJ
barium	68.6	24.4B	46	45.3B	23.4B	1,310	190	844	671
beryllium	0.77B	--	0.72B	0.61B	0.66B	1B	0.56B	0.6B	0.8B
cadmium	--	--	--	--	--	2.1	--	--	--
calcium	34,400KJ	60,200KJ	42,200KJ	13,800KJ	33,100KJ	16,000KJ	14,100KJ	77,900KJ	8,110KJ
chromium	42.5NJ	103NJ	49.6NJ	31.3NJ	35.9NJ	322NJ	54.4NJ	679NJ	38.9NJ
cobalt	8.6B	5.1BJ	6B	6B	5B	12A	18.2	81.4	65.2
copper	59.4NJ	79.6NJ	414NJ	76.4NJ	35.7NJ	180NJ	212NJ	125NJ	229NJ
iron	23,500	33,200	29,200	14,600	17,000	33,700	27,100	39,400	27,300
lead	45.8	30.5	42.2	58.2	35.1	522	250	468	926
magnesium	6,190	24,800	10,700	3,270	5,570	3,280	5,440	17,900	2,870
manganese	554	972	669	333	463	683	561	5,450	994
mercury	--	--	--	0.14	--	0.38	0.29	--	0.28
nickel	38.4	23.1	23.8	19.6	12.5	1,680	74	206	123
potassium	1,200B	412B	534B	403B	460B	1,130B	1,500	1,380	1,090B
silver	--	--	--	--	--	1.1B	--	1.5B	1.2B
sodium	75.7BJ	128B	109B	107B	92.9B	695B	226B	2,040	645B
vanadium	17.4	10.5B	7.7B	6.7B	7B	9.6B	15.6	45.3	15.1
zinc	144EJ	150EJ	135EJ	131EJ	104EJ	662EJ	496EJ	811EJ	1,030EJ

-- Not detected.

† TIC Chemical Abstracts Service (CAS) numbers, if available, are provided in parentheses.

Table 4-1 (Cont.)

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
X	Denotes manually entered data. This always occurs with multi-component quantitations and sometimes occurs with individual pesticides when the analyst had to correct the integration of a peak.	
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL. Data is quantitative.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semiquantitative.
A	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semiquantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
R	Results are unusable due to a major violation of QC protocols.	Analyte value is not usable.

APPENDIX C

Groundwater Analytical Results

108 Yorkshire Road
Lexington, Ohio 44904
August 31, 1994

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 8-15-94 have been received. A summary of the data is as follows:

1,1,1-Trichloroethane	0.059 ppm
1,1-Dichloroethane	0.073 ppm
Ethylbenzene	0.313 ppm
cis-1,2-Dichloroethene	0.340 ppm
Xylenes	8.680 ppm
Total Organic Volatiles =	9.465 ppm
Fats, Oils & Grease	<5.0 ppm
pH	6.69 S.U.
Lead	0.0054 ppm

A copy of the analysis report is being enclosed with this letter.

At the time the above water samples were taken on 8-15-94 the meter read 91,770 cu. ft. This equates to a flow since the last reading on 4-29-94 of 21,530 cu. ft. (161,065.93 gallons).

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

Enclosure: As stated

108 Yorkshire Road
Lexington, Ohio 44904
May 18, 1994

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 4-29-94 have been received. A summary of the data is as follows:

cis-1,2-Dichloroethene	0.262 ppm
Ethylbenzene	0.315 ppm
Xylenes	6.200 ppm
Total Organic Volatiles =	6.777 ppm
Fats, Oil & Grease	<5.0 ppm
pH	6.81 S.U.
Lead	<0.005 ppm

A copy of the analysis report is being enclosed with this letter.

At the time the above water samples were taken on 4-29-94 the meter read 70,240 cu. ft. This equates to a flow since the last reading on 11-8-93 of 19,390 cu. ft. (145,056.59 gallons). The system was shut-down from December to April due to freezing temperatures.

The six month monitoring period specified in your letter of 10-1-92 has been completed after delays due to cold weather shut-downs and periods of no flow caused by low ground water levels. Analyses during the monitoring period have shown the discharge to be within your specified limits therefore sampling is being reduced to quarterly.

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

108 Yorkshire Road
Lexington, Ohio 44904
October 19, 1993

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms.Curry:

Mansfield had rain the last few days of September which raised the ground water level enough to allow pumping to be resumed at the former WCI tank farm. Water samples were taken from the well discharge on 9-29-93 and the results of the analysis is summarized as follows:

1,1-Dichlorethane	0.077 ppm
cis-1,2-Dichloroethene	0.227 ppm
MIBK	0.511 ppm
Ethylbenzene	0.690 ppm
Xylenes	11.200 ppm
Total Organic Volatiles =	12.705 ppm
Fats, Oils & Grease	<5.0 ppm
pH	6.75 S.U.
Lead	<0.005 ppm

A copy of the analysis report is being enclosed with this letter.

At the time the above water samples were taken on 9-29-93 the meter read 44,410 cu. ft. This equates to a flow during the period (7-15-93 through 9-29-93) of 6,840 cu. ft. (51,170 gallons).

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

Enclosure: As stated

108 Yorkshire Road
Lexington, Ohio 44904
August 9, 1993

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 7-15-93 have been received. A summary of the data is as follows:

Tetrachloroethene	0.062 ppm
cis-1,2-Dichloroethene	0.168 ppm
Ethylbenzene	8.810 ppm
Xylenes	9.860 ppm

Total Organic Volatiles = 18.900 ppm

Fats, Oils & Grease	<5.0 ppm
pH	6.68 S.U.
Lead	<0.005 ppm

A copy of the analysis report is being enclosed with this letter.

At the time the above water samples were taken on 7-15-93 the meter read 37,570 cu. ft. This equates to a flow during the period of 3,300 cu. ft. (24,687.3 gallons). Difficulty was experienced obtaining these samples because the flow was very low. The next samples will be delayed until the ground water level has risen to allow pumping to resume. On this date, 8-9-93, there has been no flow indicated by the meter reading since 7-15-93.

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

Enclosure: As stated

108 Yorkshire Road
Lexington, Ohio 44904
July 20, 1993

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 6-22-93 have been received. A summary of the data is as follows:

Ethylbenzene	0.1790 ppm
Xylenes	8.9000 ppm
Total Organic Volatiles =	9.0790 ppm
Fats, Oils & Grease	< 5.0 ppm
pH	6.56 S.U.
Lead	0.0071 ppm

A copy of the analysis report is being enclosed with this letter.

At the time the above water samples were taken on 6-22-93 the meter read 34,270 cu. ft. This equates to a flow during the period of 4,730 cu. ft. (35,385.13 gallons).

if you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

Enclosure: As stated

108 Yorkshire Road
Lexington, Ohio 44904
June 15, 1993

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 5-24-93 have been received. A summary of the data is as follows:

1,1-Dichloroethane	0.0885 ppm
Cis-1,2-Dichloroethene	0.1820 ppm
Xylenes	7.4900 ppm
Total Organic Volatiles =	7.7605 ppm
Fats, Oils & Grease	< 5.0 ppm
pH	6.74 S.U.
Lead	< 0.0050 ppm

A copy of the analysis report is being enclosed with this letter.

At the time the above water samples were taken on 5-24-93 the meter read 29540 cu. ft. This equates to a flow during the period of 4540 cu. ft. (33963.74 gallons).

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

Enclosure: As stated

108 Yorkshire Road
Lexington, Ohio 44904
May 18, 1993

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 4-29-93 have been received. A summary of the data is as follows:

1,1,1-Trichloroethane	0.0285 ppm
Cis-1,2-Dichloroethane	0.0375 ppm
1,1-Dichloroethane	0.0623 ppm
MIBK	0.4040 ppm
Ethylbenzene	1.1600 ppm
Xylenes	7.9600 ppm
Total Organic Volatiles =	9.6523 ppm
Fats, Oils & Grease	< 5.0 ppm
pH	6.53 S.U.
Lead	0.0161 ppm

A copy of the analysis report is being enclosed with this letter.

The meter read 16470 cu. ft. on 4-13-93 when pumping of the wells was resumed. At the time the above water samples were taken on 4-29-93 the meter read 25000 cu. ft. This equates to a flow during the period of 8530 cu. ft. (63812.93 gallons).

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

Enclosure: As stated

108 Yorkshire Road
Lexington, Ohio 44904
December 7, 1992

City of Mansfield WWTP
385 South Illinois Avenue
Mansfield, Ohio 44905

ATTN: Ms. Carline Curry
Industrial Pretreatment Coordinator

Dear Ms. Curry:

The results of the analysis of water samples taken from the well discharge at the former WCI tank farm on 11-19-92 have been received. The data is as follows:

1,1-Dichloroethane	0.052 ppm
MIBK	1.540 ppm
Ethylbenzene	1.690 ppm
Xylenes	12.300 ppm

Total Organic Volatiles = 15.582 ppm

Fats, Oils & Grease < 5.0 ppm

pH 6.84 S.U.

Lead < 0.005 ppm

The analysis is available and copies will be supplied on request.

Water samples were taken from the discharge on 12-3-92 and sent for laboratory analysis. On this date the water meter reading was 14160 cu. ft. (105916.8 gallons). This is a flow of 36427.6 gallons since the 11-19-92 reading.

If you have any questions, please call me at 884-3615.

Sincerely yours,

Norman J. Schehl

RESULTS OF SAMPLING AND ANALYSES

The results of the analyses of the discharge have showed varied compounds and concentrations. The results of the sampling are summarized below:

Date	Ethyl Benzene	1,1,1-TCA	1,1-DCA	Vinyl Chloride	Toluene	Xylene
11/10	-	-	-	-	-	-
12/20	-	-	-	-	101	530
12/28	-	-	106	-	-	2,920
01/02	614	53.7	87.8	14.2	-	2,890
01/05	517	-	92.7	19.4	-	2,980
01/08	494	55.2	90.3	26.0	-	2,720
01/11	181	30.7	53.9	17.0	-	1,500
01/16	525	57.5	101	36.0	-	3,540
01/25	-	-	73.4	21.2	-	2,410
01/30	-	41.2	71.4	-	-	2,290
02/06	136		97.8	31.8		3,060

1,1,1-TCA = 1,1,1-trichloroethane 1,1-DCA = 1,1-dichloroethane

The results show that by creating a cone of depression in the water table in the excavation zone, contaminants, along with ground water, are being removed from the surrounding soils. At present there is no sign of a significant reduction in the concentration of the contaminants to be able to forecast the length of time of the operation.

FUTURE ACTIVITIES

Activities planned for the project include the permitting, design, and installation of a treatment system for the discharge. Initial surveys of technologies available indicate that physical separation combined with carbon treatment be employed to remove the contaminants from the water prior to discharge. The city sanitary sewer will continue to act as the receiving stream.

In using activated carbon adsorption, waste is created in the form of spent carbon. After breakthrough is achieved by the contaminants, the carbon will be removed, analyzed, and either disposed of as solid waste, or regenerated. The specific option used is based on disposal costs. Investigation is also being performed into biological treatment of the contaminants in ground water. This method of treatment generates very little additional waste.

Other activities include the continued monitoring of the effluent water quality. When treatment is initiated, influent water quality will also be monitored.

Good background info.
This was prepared by
Chip Green

Appendix D

APPENDIX D

Census Data 4-Mile Radius Map

Richland County
MANSFIELD PRODUCTS CO.

RADIUS (MILES)	TOTAL PEOPLE	WHITE	BLACK	INDIAN	ASIAN	OTHER	HOUSING (UNITS)
3.00-4.00	12,679	11,709	836	11	57	23	4,858
2.00-3.00	20,729	18,984	1,551	27	79	38	8,794
1.00-2.00	23,545	19,742	3,552	44	90	70	10,323
0.50-1.00	7,738	4,886	2,769	8	19	25	3,409
0.25-0.50	1,215	747	443	12	0	2	543
0.00-0.25	301	228	69	1	0	0	141
	66,207	56,296	9,220	103	245	158	28,068

Ohio EPA
Division of Emergency & Remedial Response
Population Report of 1990 Census within Radius

RADIUS (MILES)	BLOCK GROUP ID#		POPULATION WITHIN BLOCKGROUP	% AREA WITHIN RADIUS	POPULATION WITHIN RADIUS	WHITE	BLACK	INDIAN	ASIAN	OTHER	MALE	FEMALE	HISPANIC	AGE GROUP < 1	AGE GROUP 1 - 4	AGE GROUP 5 - 14	AGE GROUP 15 - 18	AGE GROUP 19 - 24	AGE GROUP 25 - 44	AGE GROUP 45 - 64	AGE GROUP > 64
0.00-0.25	0008	3	958	17.00	162	124	36	1	0	0	78	84	0	1	13	26	12	13	46	28	20
0.00-0.25	0002	1	371	10.00	37	33	3	0	0	0	22	14	0	0	1	5	2	2	10	9	3
0.00-0.25	0002	2	162	63.00	102	71	30	0	0	0	49	52	0	1	6	15	7	8	25	22	13
0.00-0.25			1,491		301	228	69	1	0	0	149	150	0	2	20	46	21	23	81	59	36
0.25-0.50	0008	2	1,275	4.00	51	39	11	0	0	0	23	27	0	0	2	6	3	4	15	10	6
0.25-0.50	0008	3	958	56.00	536	411	119	3	0	0	257	278	1	5	43	86	39	44	154	94	67
0.25-0.50	0002	1	371	27.00	100	89	9	0	0	0	61	39	0	1	4	15	5	6	29	26	10
0.25-0.50	0009	9	748	4.00	29	29	0	0	0	0	14	15	0	0	1	4	1	2	9	6	4
0.25-0.50	0002	2	162	37.00	59	41	18	0	0	0	29	30	0	1	4	9	4	4	15	13	7
0.25-0.50	0001	1	47	45.00	21	14	5	0	0	0	12	9	0	0	2	0	2	3	6	3	1
0.25-0.50	0001	2	328	5.00	16	11	4	0	0	0	9	7	0	0	0	0	0	1	5	3	3
0.25-0.50	0003	1	447	85.00	379	107	260	9	0	2	179	200	5	6	28	61	30	36	80	79	56
0.25-0.50	0003	2	1,214	2.00	24	6	17	0	0	0	11	12	0	0	1	3	2	2	6	4	2
0.25-0.50			5,550		1,215	747	443	12	0	2	595	617	6	13	85	184	86	102	319	238	156
0.50-1.00	0002	1	371	46.00	170	152	17	0	0	0	103	66	0	2	8	27	9	10	50	44	17
0.50-1.00	0008	2	1,275	73.00	930	721	203	2	2	0	429	501	7	9	52	124	64	84	289	189	116
0.50-1.00	0007	1	1,153	65.00	749	233	514	0	0	1	344	404	10	9	44	132	68	52	180	146	114
0.50-1.00	0008	1	991	12.00	118	117	0	0	0	0	57	61	0	1	8	13	7	8	33	27	19
0.50-1.00	0007	2	2,544	2.00	50	26	24	0	0	0	24	26	1	0	4	7	4	5	14	9	4
0.50-1.00	0006	1	2,803	28.00	784	442	333	0	3	3	369	415	11	13	63	129	78	79	231	131	57
0.50-1.00	0008	3	958	26.00	249	191	55	1	0	0	119	129	0	2	20	40	18	20	71	43	31
0.50-1.00	0009	1	2,597	1.00	25	25	0	0	0	0	12	13	0	0	1	3	1	2	8	5	3
0.50-1.00	0009	9	748	18.00	134	131	1	0	0	0	63	71	2	2	6	19	8	9	42	27	18
0.50-1.00	0006	2	2,212	5.00	110	79	29	0	0	0	51	59	1	2	9	15	9	11	36	16	10
0.50-1.00	0001	1	47	55.00	25	18	6	0	0	0	14	11	1	0	2	1	2	4	8	3	2
0.50-1.00	0005	1	2,661	34.00	904	751	138	2	3	8	414	490	15	14	64	111	55	92	285	129	150
0.50-1.00	0001	2	328	95.00	311	217	78	0	9	4	173	137	5	2	5	15	14	36	99	74	63
0.50-1.00	0003	1	447	6.00	26	7	18	0	0	0	12	14	0	0	1	4	2	2	5	5	4
0.50-1.00	0003	1	447	9.00	40	11	27	0	0	0	18	21	1	0	2	6	3	3	8	8	6
0.50-1.00	0003	3	905	100.00	905	536	367	2	0	0	419	486	14	15	95	131	73	84	270	158	79
0.50-1.00	0003	2	1,214	98.00	1,189	340	842	0	0	6	579	610	8	26	90	180	119	101	313	221	136
0.50-1.00	0010	9	1,736	2.00	34	33	0	0	0	0	17	17	0	0	1	4	2	4	11	7	3
0.50-1.00	0005	2	2,227	8.00	178	165	10	0	1	0	80	97	1	2	10	20	10	14	60	28	31
0.50-1.00	0004	1	1,408	39.00	549	457	85	1	1	3	265	283	9	11	42	98	44	49	185	72	43
0.50-1.00	0010	1	1,725	15.00	258	234	22	0	0	0	120	138	2	3	16	32	18	24	80	51	31
0.50-1.00			28,797		7,738	4,886	2,769	8	19	25	3,682	4,049	88	113	543	1,111	608	693	2,278	1,393	937
1.00-2.00	0017	9	2,626	14.00	367	174	187	1	0	4	343	24	10	0	3	8	9	148	169	22	5
1.00-2.00	0018	2	1,676	38.00	636	608	22	2	2	1	308	328	6	7	36	77	44	50	182	168	68
1.00-2.00	0016	2	1,356	49.00	664	559	101	0	0	1	330	333	2	8	31	90	56	54	191	148	82
1.00-2.00	0008	1	991	85.00	842	833	5	2	0	0	406	436	3	11	62	95	51	58	235	192	136
1.00-2.00	0015	2	1,030	10.00	103	102	0	0	0	0	49	53	2	2	7	14	8	10	28	23	9
1.00-2.00	0008	2	1,275	18.00	229	177	50	0	0	0	105	123	2	2	12	30	15	20	71	46	28
1.00-2.00	0002	1	371	16.00	59	53	5	0	0	0	36	23	0	0	2	9	3	3	17	15	6
1.00-2.00	0007	1	1,153	35.00	403	125	276	0	0	1	185	218	5	5	23	71	37	28	97	78	61

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RADIUS (MILES)	BLOCK GROUP ID#		POPULATION WITHIN BLOCKGROUP	% AREA WITHIN RADIUS	POPULATION WITHIN RADIUS	WHITE	BLACK	INDIAN	ASIAN	OTHER	MALE	FEMALE	HISPANIC	AGE GROUP < 1	AGE GROUP 1 - 4	AGE GROUP 5 - 14	AGE GROUP 15 - 18	AGE GROUP 19 - 24	AGE GROUP 25 - 44	AGE GROUP 45 - 64	AGE GROUP > 64
1.00-2.00	0007	2	2,544	78.00	1,984	1,021	944	1	6	10	942	1,042	20	34	157	303	163	201	566	368	188
1.00-2.00	0009	1	2,597	58.00	1,506	1,450	40	5	6	2	716	789	15	21	80	204	110	116	477	304	190
1.00-2.00	0009	2	2,104	25.00	526	519	4	1	0	0	255	270	2	6	29	72	39	36	163	112	66
1.00-2.00	0008	2	1,275	5.00	63	49	13	0	0	0	29	34	0	0	3	8	4	5	19	13	8
1.00-2.00	0006	1	2,803	52.00	1,457	822	619	1	7	7	685	771	21	25	117	241	145	148	429	243	107
1.00-2.00	0006	2	2,212	64.00	1,415	1,013	375	10	8	7	652	762	16	25	120	200	115	149	465	205	132
1.00-2.00	0009	9	748	36.00	269	263	3	0	0	0	126	142	3	4	12	39	17	19	84	54	37
1.00-2.00	0013	1	2,116	33.00	698	667	20	0	6	2	324	374	5	11	42	66	40	53	227	129	126
1.00-2.00	0005	1	2,661	66.00	1,756	1,459	268	5	7	15	804	951	29	29	126	215	108	179	554	250	292
1.00-2.00	0013	2	1,252	66.00	826	807	9	2	4	1	389	436	4	9	48	84	44	42	278	172	145
1.00-2.00	0005	2	2,227	92.00	2,048	1,906	124	0	16	0	925	1,123	9	28	121	235	120	161	691	325	363
1.00-2.00	0010	9	1,736	25.00	434	424	7	0	0	1	215	219	1	4	19	50	27	51	147	96	37
1.00-2.00	0004	1	1,408	61.00	858	716	132	1	1	6	415	443	15	18	67	154	69	78	289	114	67
1.00-2.00	0010	1	1,725	85.00	1,466	1,328	128	2	4	2	683	782	9	17	94	186	102	141	453	294	176
1.00-2.00	0004	2	1,827	100.00	1,827	1,715	96	7	6	3	772	1,055	3	34	112	225	98	108	598	230	422
1.00-2.00	0012	1	2,051	56.00	1,148	1,118	20	1	7	1	520	627	2	16	68	128	58	67	338	240	230
1.00-2.00	0010	2	2,111	72.00	1,519	1,407	92	2	10	6	711	808	15	26	79	172	87	149	519	294	190
1.00-2.00	0011	1	903	49.00	442	427	12	1	0	0	177	264	4	1	12	35	15	22	96	96	162
1.00-2.00			44,778		23,545	19,742	3,552	44	90	70	11,102	12,430	203	343	1,482	3,011	1,584	2,096	7,383	4,231	3,333
2.00-3.00	0017	9	2,626	28.00	735	348	374	2	0	8	686	48	20	1	6	16	18	297	339	45	10
2.00-3.00	0018	9	1,156	4.00	46	43	2	0	0	0	23	22	0	0	1	5	3	3	13	12	4
2.00-3.00	0018	2	1,676	61.00	1,022	976	36	3	3	1	494	527	9	12	59	124	71	80	293	270	109
2.00-3.00	0018	9	1,156	7.00	80	76	4	0	0	0	40	40	1	0	3	10	6	6	23	22	7
2.00-3.00	0015	1	766	1.00	7	7	0	0	0	0	3	4	0	0	0	1	0	0	2	1	0
2.00-3.00	0016	1	989	86.00	850	849	0	0	0	0	443	406	15	7	57	102	93	68	249	194	76
2.00-3.00	0018	1	1,307	85.00	1,110	1,073	25	0	11	0	554	556	7	9	57	130	75	82	323	275	156
2.00-3.00	0016	2	1,356	51.00	691	582	106	1	0	2	344	347	2	8	32	93	59	56	199	155	86
2.00-3.00	0015	1	766	2.00	15	15	0	0	0	0	7	8	0	0	1	2	1	1	4	3	1
2.00-3.00	0015	2	1,030	90.00	927	923	0	0	2	0	444	482	17	19	63	130	73	94	254	208	81
2.00-3.00	0015	3	965	47.00	453	446	5	0	0	0	225	228	1	8	38	58	25	48	136	93	43
2.00-3.00	0019	4	1,103	2.00	22	20	1	0	0	0	10	11	0	0	0	3	1	1	6	4	4
2.00-3.00	0008	1	991	4.00	39	39	0	0	0	0	19	20	0	0	2	4	2	2	11	9	6
2.00-3.00	0009	1	2,597	41.00	1,064	1,025	28	4	4	1	506	558	11	15	56	144	78	82	337	215	134
2.00-3.00	0019	2	1,240	26.00	322	302	17	0	1	0	164	157	1	4	19	37	30	35	104	67	24
2.00-3.00	0015	1	766	4.00	30	30	0	0	0	0	14	16	0	0	2	4	2	2	8	7	2
2.00-3.00	0007	2	2,544	21.00	534	275	254	0	1	2	253	280	5	9	42	81	44	54	152	99	50
2.00-3.00	0014	1	2,532	58.00	1,468	1,378	74	4	6	4	665	803	16	12	89	135	75	111	382	321	339
2.00-3.00	0006	1	2,803	20.00	560	316	238	0	2	2	263	296	8	9	45	92	55	57	165	93	41
2.00-3.00	0009	2	2,104	75.00	1,578	1,559	14	3	0	0	766	811	5	18	87	216	117	110	489	338	199
2.00-3.00	0006	2	2,212	32.00	707	506	187	5	4	3	326	381	8	12	60	100	57	74	232	102	66
2.00-3.00	0013	1	2,116	67.00	1,417	1,355	41	1	13	6	657	759	9	22	87	136	83	107	462	261	256
2.00-3.00	0013	2	1,252	34.00	425	416	5	1	2	0	200	225	2	4	24	43	23	21	143	89	75
2.00-3.00	0009	9	748	35.00	261	256	3	0	0	0	122	138	3	4	11	38	16	18	81	52	36
2.00-3.00	0012	9	220	28.00	61	58	0	0	2	0	31	30	1	0	3	9	4	2	19	16	5
2.00-3.00	0012	1	2,051	44.00	902	878	15	0	5	1	409	493	1	12	53	100	46	53	265	189	180
2.00-3.00	0010	9	1,736	59.00	1,024	1,002	18	0	0	2	507	516	2	9	44	119	64	122	346	228	88
2.00-3.00	0011	1	903	51.00	460	445	12	2	0	0	185	275	4	1	12	36	16	22	100	100	169
2.00-3.00	0012	2	1,437	77.00	1,106	1,084	7	0	13	0	512	594	9	9	45	91	66	53	287	284	267

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RADIUS (MILES)	BLOCK GROUP ID#		POPULATION WITHIN BLOCKGROUP	% AREA WITHIN RADIUS	POPULATION WITHIN RADIUS	WHITE	BLACK	INDIAN	ASIAN	OTHER	MALE	FEMALE	HISPANIC	AGE GROUP < 1	AGE GROUP 1 - 4	AGE GROUP 5 - 14	AGE GROUP 15 - 18	AGE GROUP 19 - 24	AGE GROUP 25 - 44	AGE GROUP 45 - 64	AGE GROUP > 64
2.00-3.00	0010	2	2,111	28.00	591	547	36	1	3	2	276	314	6	10	30	66	34	58	202	114	73
2.00-3.00	0011	2	1,649	99.00	1,632	1,592	28	0	5	4	743	889	6	12	65	129	63	99	381	425	455
2.00-3.00	0021	8	1,106	21.00	232	225	4	0	1	0	108	124	1	2	13	31	15	13	71	50	33
2.00-3.00	0021	7	1,156	31.00	358	338	17	0	1	0	167	191	3	2	14	40	22	18	94	91	73
2.00-3.00			49,170		20,729	18,984	1,551	27	79	38	10,166	10,549	173	230	1,120	2,325	1,337	1,849	6,172	4,432	3,148
3.00-4.00	0017	9	2,626	37.00	971	460	495	3	1	11	907	64	27	1	8	21	24	393	448	59	13
3.00-4.00	0027	4	1,270	1.00	12	12	0	0	0	0	6	6	0	0	0	1	1	0	3	3	1
3.00-4.00	0029	9	34	6.00	2	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
3.00-4.00	0027	4	1,270	2.00	25	24	0	0	0	0	12	12	0	0	1	3	2	1	7	6	2
3.00-4.00	0029	1	260	5.00	13	12	0	0	0	0	6	6	0	0	0	1	1	0	3	2	1
3.00-4.00	0018	9	1,156	77.00	890	836	46	1	5	0	448	441	6	8	35	110	70	70	262	249	83
3.00-4.00	0019	9	2,510	10.00	251	240	8	0	0	0	124	126	1	2	12	38	23	18	82	55	17
3.00-4.00	0015	1	766	78.00	597	592	1	0	1	2	282	315	8	10	44	88	42	53	173	137	47
3.00-4.00	0023	9	613	10.00	61	60	0	0	0	0	29	31	1	1	1	8	4	4	18	17	5
3.00-4.00	0016	1	989	14.00	138	138	0	0	0	0	72	66	3	1	9	16	15	11	40	31	12
3.00-4.00	0019	4	1,103	94.00	1,036	983	51	0	1	0	480	556	1	11	45	141	73	50	285	203	226
3.00-4.00	0018	1	1,307	4.00	52	50	1	0	0	0	26	26	0	0	2	6	3	3	15	12	7
3.00-4.00	0018	1	1,307	11.00	143	138	3	0	1	0	71	72	1	1	7	16	9	10	41	35	20
3.00-4.00	0019	9	2,510	26.00	652	625	22	1	2	1	323	329	3	6	31	99	60	48	215	144	46
3.00-4.00	0015	3	965	53.00	511	503	6	1	0	0	253	257	1	10	43	66	28	54	153	105	49
3.00-4.00	0024	9	2,432	8.00	194	189	3	0	1	0	94	100	2	1	9	21	13	14	57	50	25
3.00-4.00	0019	2	1,240	70.00	868	814	46	1	4	1	443	424	1	11	52	100	81	94	281	180	65
3.00-4.00	0014	1	2,532	42.00	1,063	997	54	3	4	3	481	581	12	9	64	97	54	81	276	233	246
3.00-4.00	0024	1	1,854	35.00	648	631	11	0	2	2	313	334	5	4	27	67	40	32	178	187	110
3.00-4.00	0019	3	914	10.00	91	89	1	0	0	0	47	44	0	1	5	14	7	6	29	21	5
3.00-4.00	0012	9	220	58.00	127	121	0	0	4	0	64	62	1	0	6	19	8	5	40	33	11
3.00-4.00	0023	4	1,194	5.00	59	58	0	0	0	0	29	30	1	0	2	8	5	2	17	16	6
3.00-4.00	0009	9	748	7.00	52	51	0	0	0	0	24	27	1	0	2	7	3	3	16	10	7
3.00-4.00	0019	8	81	99.00	80	80	0	0	0	0	38	41	0	0	1	8	8	7	22	25	3
3.00-4.00	0010	9	1,736	13.00	225	220	4	0	0	0	111	113	1	2	9	26	14	26	76	50	19
3.00-4.00	0012	2	1,437	23.00	330	324	2	0	3	0	152	177	3	2	13	27	19	15	86	85	80
3.00-4.00	0021	1	831	99.00	822	798	12	0	9	0	343	479	2	5	27	60	28	32	165	220	281
3.00-4.00	0011	2	1,649	1.00	16	16	0	0	0	0	7	8	0	0	0	1	0	1	3	4	4
3.00-4.00	0020	2	1,086	31.00	336	332	2	1	0	0	168	167	1	4	17	53	28	21	104	76	31
3.00-4.00	0021	8	1,106	51.00	564	548	10	0	4	0	262	301	3	5	33	76	37	31	173	122	82
3.00-4.00	0021	3	1,443	7.00	101	96	0	0	3	0	49	51	1	1	4	14	9	3	27	28	11
3.00-4.00	0021	7	1,156	69.00	797	753	37	0	3	2	371	425	6	5	32	90	51	42	209	202	163
3.00-4.00	0020	1	1,388	9.00	124	122	2	0	0	0	60	64	1	0	4	16	11	7	34	31	17
3.00-4.00	0021	5	1,062	76.00	807	775	19	0	9	1	381	425	11	9	39	90	46	72	275	162	110
3.00-4.00	0021	3	1,443	1.00	14	13	0	0	0	0	7	7	0	0	0	2	1	0	3	4	1
3.00-4.00	0021	2	796	1.00	7	7	0	0	0	0	3	4	0	0	0	1	0	0	2	2	0
3.00-4.00			45,034		12,679	11,709	836	11	57	23	6,487	6,171	104	110	584	1,411	818	1,209	3,818	2,799	1,806
			174,820		66,207	56,296	9,220	103	245	158	32,181	33,966	574	811	3,834	8,088	4,454	5,972	20,051	13,152	9,416

Ohio EPA
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Summary Report of 1990 Census Income, Education, Unemployment and Poverty Level

RADIUS (MILES)	BLOCK GROUP ID#		FAMILIES WITHIN BLKGRP	HOUSEHOLDS WITHIN BLKGRP	% AREA WITHIN RADIUS	FAMILIES WITHIN RADIUS	HOUSEHOLDS WITHIN RADIUS	FAMILY MEDIAN INCOME	HOUSEHOLD MEDIAN INCOME	GRADES 1 - 9	GRADES 10 - 12	HIGHSCHOOL GRADUATE	SOME COLLEGE	ASSOCIATE DEGREE	BACHELOR DEGREE	GRADUATE DEGREE	PERCENT WORKFORCE UNEMP.	PERCENT POPULATION BELOW POV.
0.00-0.25	0008	3	242	362	17.00	41	61	16,250	13,600	0.00	54.10	19.67	26.23	0.00	0.00	0.00	19.00	47.46
	0002	1	70	145	10.00	7	14	19,091	18,636	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
	0002	2	40	69	63.00	25	43	8,388	6,759	2.74	2.95	20.65	19.60	4.64	26.98	22.44	4.00	1.56
0.00-0.25			352	576		73	118											
0.25-0.50	0008	2	339	512	4.00	13	20	25,333	17,434	2.90	17.04	35.26	24.02	5.79	10.05	4.94	2.00	4.51
	0008	3	242	362	56.00	135	202	16,250	13,600	0.00	54.10	19.67	26.23	0.00	0.00	0.00	19.00	47.46
	0002	1	70	145	27.00	18	39	19,091	18,636	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
	0009	9	196	278	4.00	7	11	28,125	20,850	12.45	28.11	36.55	11.65	11.24	0.00	0.00	0.00	12.01
	0002	2	40	69	37.00	14	25	8,388	6,759	2.74	2.95	20.65	19.60	4.64	26.98	22.44	4.00	1.56
	0001	1	12	22	45.00	5	9	4,999	15,089	5.16	23.61	46.43	17.26	2.98	1.59	2.98	11.00	11.79
	0001	2	33	183	5.00	1	9	23,438	5,796	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	5.91
	0003	1	113	164	85.00	96	139	11,000	9,835	10.43	21.09	48.48	13.26	1.52	4.35	0.87	32.00	48.25
	0003	2	307	415	2.00	6	8	21,000	14,226	23.82	21.62	47.13	1.86	3.38	2.20	0.00	10.00	25.20
0.25-0.50			1,352	2,150		295	462											
0.50-1.00	0002	1	70	145	46.00	32	66	19,091	18,636	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
	0008	2	339	512	73.00	247	373	25,333	17,434	2.90	17.04	35.26	24.02	5.79	10.05	4.94	2.00	4.51
	0007	1	285	417	65.00	185	271	14,048	13,690	3.86	11.63	35.06	25.01	7.35	12.90	4.18	5.00	6.36
	0008	1	304	392	12.00	36	47	25,859	23,892	27.18	13.59	18.45	30.10	10.68	0.00	0.00	28.00	73.91
	0007	2	703	963	2.00	14	19	19,648	15,875	15.66	29.04	26.01	20.45	6.57	0.00	2.27	18.00	67.55
	0006	1	671	971	28.00	187	271	17,287	16,662	19.43	28.39	38.34	7.18	3.69	1.98	0.99	16.00	32.56
	0008	3	242	362	26.00	62	94	16,250	13,600	0.00	54.10	19.67	26.23	0.00	0.00	0.00	19.00	47.46
	0009	1	754	1,038	1.00	7	10	27,908	24,549	22.12	43.27	17.63	12.82	0.00	0.00	4.17	27.00	79.43
	0009	9	196	278	18.00	35	50	28,125	20,850	12.45	28.11	36.55	11.65	11.24	0.00	0.00	0.00	12.01
	0006	2	560	880	5.00	28	44	27,000	21,005	3.08	11.08	35.38	11.38	1.69	25.69	11.69	10.00	3.74
	0001	1	12	22	55.00	6	12	4,999	15,089	5.16	23.61	46.43	17.26	2.98	1.59	2.98	11.00	11.79
	0005	1	540	1,181	34.00	183	401	19,048	15,306	6.20	39.80	37.20	11.80	1.40	3.60	0.00	6.00	21.73
	0001	2	33	183	95.00	31	173	23,438	5,796	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	5.91
	0003	1	113	164	6.00	6	9	11,000	9,835	10.43	21.09	48.48	13.26	1.52	4.35	0.87	32.00	48.25
	0003	1	113	164	9.00	10	14	11,000	9,835	10.43	21.09	48.48	13.26	1.52	4.35	0.87	32.00	48.25
	0003	3	209	336	100.00	209	336	13,177	12,443	1.89	22.70	35.22	12.06	7.09	16.55	4.49	12.00	10.56
	0003	2	307	415	98.00	300	406	21,000	14,226	23.82	21.62	47.13	1.86	3.38	2.20	0.00	10.00	25.20
	0010	9	484	768	2.00	9	15	29,942	25,909	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0005	2	559	1,058	8.00	44	84	33,711	23,574	11.83	47.81	33.68	6.68	0.00	0.00	0.00	14.00	25.44
	0004	1	365	529	39.00	142	206	16,655	15,625	7.97	23.19	38.41	18.30	6.16	4.71	1.27	14.00	13.36
	0010	1	475	700	15.00	71	105	25,658	24,020	6.51	16.27	39.78	17.54	5.61	11.75	2.53	7.00	14.12
0.50-1.00			7,334	11,478		1,844	3,006											
1.00-2.00	0017	9	109	130	14.00	15	18	28,214	22,708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	17.84
	0018	2	506	656	38.00	192	249	32,803	29,180	14.99	20.41	22.74	19.12	8.53	4.65	9.56	11.00	41.19
	0016	2	376	494	49.00	184	242	27,098	18,221	13.90	26.64	47.88	8.88	2.70	0.00	0.00	13.00	35.15
	0008	1	304	392	85.00	258	333	25,859	23,892	27.18	13.59	18.45	30.10	10.68	0.00	0.00	28.00	73.91
	0015	2	284	394	10.00	28	39	20,562	18,026	20.65	42.11	24.97	10.26	2.02	0.00	0.00	32.00	70.90
	0008	2	339	512	18.00	61	92	25,333	17,434	2.90	17.04	35.26	24.02	5.79	10.05	4.94	2.00	4.51
	0002	1	70	145	16.00	11	23	19,091	18,636	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
	0007	1	285	417	35.00	99	145	14,048	13,690	3.86	11.63	35.06	25.01	7.35	12.90	4.18	5.00	6.36

Ohio EPA
Division of Emergency & Remedial Response
Summary Report of 1990 Census Income, Education, Unemployment and Poverty Level

RADIUS (MILES)	BLOCK GROUP ID#		FAMILIES WITHIN BLKGRP	HOUSEHOLDS WITHIN BLKGRP	% AREA WITHIN RADIUS	FAMILIES WITHIN RADIUS	HOUSEHOLDS WITHIN RADIUS	FAMILY MEDIAN INCOME	HOUSEHOLD MEDIAN INCOME	GRADES 1 - 9	GRADES 10 - 12	HIGHSCHOOL GRADUATE	SOME COLLEGE	ASSOCIATE DEGREE	BACHELOR DEGREE	GRADUATE DEGREE	PERCENT WORKFORCE UNEMP.	PERCENT POPULATION BELOW POV.
1.00-2.00	0007	2	703	963	78.00	548	751	19,648	15,875	15.66	29.04	26.01	20.45	6.57	0.00	2.27	18.00	67.55
	0009	1	754	1,038	58.00	437	602	27,908	24,549	22.12	43.27	17.63	12.82	0.00	0.00	4.17	27.00	79.43
	0009	2	616	817	25.00	154	204	26,181	23,389	4.96	8.97	45.99	14.12	8.02	12.21	5.73	2.00	4.55
	0008	2	339	512	5.00	16	25	25,333	17,434	2.90	17.04	35.26	24.02	5.79	10.05	4.94	2.00	4.51
	0006	1	671	971	52.00	348	504	17,287	16,662	19.43	28.39	38.34	7.18	3.69	1.98	0.99	16.00	32.56
	0006	2	560	880	64.00	358	563	27,000	21,005	3.08	11.08	35.38	11.38	1.69	25.69	11.69	10.00	3.74
	0009	9	196	278	36.00	70	100	28,125	20,850	12.45	28.11	36.55	11.65	11.24	0.00	0.00	0.00	12.01
	0013	1	613	933	33.00	202	307	32,708	27,214	2.20	8.95	23.48	32.60	1.86	19.26	11.66	3.00	0.84
	0005	1	540	1,181	66.00	356	779	19,048	15,306	6.20	39.80	37.20	11.80	1.40	3.60	0.00	6.00	21.73
	0013	2	370	564	66.00	244	372	36,058	26,964	2.29	9.27	31.41	29.44	9.16	12.00	6.43	4.00	4.71
	0005	2	559	1,058	92.00	514	973	33,711	23,574	11.83	47.81	33.68	6.68	0.00	0.00	0.00	14.00	25.44
	0010	9	484	768	25.00	121	192	29,942	25,909	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0004	1	365	529	61.00	222	322	16,655	15,625	7.97	23.19	38.41	18.30	6.16	4.71	1.27	14.00	13.36
	0010	1	475	700	85.00	403	595	25,658	24,020	6.51	16.27	39.78	17.54	5.61	11.75	2.53	7.00	14.12
	0004	2	468	707	100.00	468	707	29,286	25,048	17.97	45.15	24.11	8.75	1.65	2.36	0.00	16.00	58.74
	0012	1	586	892	56.00	328	499	42,054	33,125	10.78	25.22	18.32	26.08	5.17	10.78	3.66	9.00	42.82
	0010	2	561	920	72.00	403	662	30,117	24,924	25.53	11.55	44.98	3.95	1.82	8.51	3.65	4.00	4.61
	0011	1	227	485	49.00	111	237	22,500	17,216	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.00	16.20
1.00-2.00			11,360	17,336		6,151	9,535											
2.00-3.00	0017	9	109	130	28.00	30	36	28,214	22,708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	17.84
	0018	9	355	420	4.00	14	16	42,557	39,429	3.12	12.27	55.93	21.00	4.57	0.00	3.12	7.00	3.65
	0018	2	506	656	61.00	308	400	32,803	29,180	14.99	20.41	22.74	19.12	8.53	4.65	9.56	11.00	41.19
	0018	9	355	420	7.00	24	29	42,557	39,429	3.12	12.27	55.93	21.00	4.57	0.00	3.12	7.00	3.65
	0015	1	218	270	1.00	2	2	26,641	25,598	23.65	29.39	15.20	6.08	2.03	13.18	10.47	9.00	56.64
	0016	1	281	345	86.00	241	296	21,339	18,480	16.77	16.77	18.04	26.11	19.62	2.69	0.00	8.00	5.20
	0018	1	400	511	85.00	340	434	29,226	26,250	13.28	17.19	54.69	8.59	6.25	0.00	0.00	26.00	31.85
	0016	2	376	494	51.00	191	251	27,098	18,221	13.90	26.64	47.88	8.88	2.70	0.00	0.00	13.00	35.15
	0015	1	218	270	2.00	4	5	26,641	25,598	23.65	29.39	15.20	6.08	2.03	13.18	10.47	9.00	56.64
	0015	2	284	394	90.00	255	354	20,562	18,026	20.65	42.11	24.97	10.26	2.02	0.00	0.00	32.00	70.90
	0015	3	265	351	47.00	124	164	25,357	22,390	9.96	17.80	59.32	4.87	2.97	2.75	2.33	4.00	5.60
	0019	4	259	306	2.00	5	6	29,755	29,592	5.19	31.60	27.06	21.21	4.98	7.14	2.81	12.00	40.24
	0008	1	304	392	4.00	12	15	25,859	23,892	27.18	13.59	18.45	30.10	10.68	0.00	0.00	28.00	73.91
	0009	1	754	1,038	41.00	309	425	27,908	24,549	22.12	43.27	17.63	12.82	0.00	0.00	4.17	27.00	79.43
	0019	2	341	476	26.00	88	123	35,197	30,875	14.53	33.76	32.48	6.41	5.98	4.27	2.56	19.00	16.33
	0015	1	218	270	4.00	8	10	26,641	25,598	23.65	29.39	15.20	6.08	2.03	13.18	10.47	9.00	56.64
	0007	2	703	963	21.00	147	202	19,648	15,875	15.66	29.04	26.01	20.45	6.57	0.00	2.27	18.00	67.55
	0014	1	743	1,191	58.00	430	690	27,764	22,173	21.99	11.34	27.15	18.56	2.75	13.75	4.47	6.00	38.42
	0006	1	671	971	20.00	134	194	17,287	16,662	19.43	28.39	38.34	7.18	3.69	1.98	0.99	16.00	32.56
	0009	2	616	817	75.00	462	612	26,181	23,389	4.96	8.97	45.99	14.12	8.02	12.21	5.73	2.00	4.55
	0006	2	560	880	32.00	179	281	27,000	21,005	3.08	11.08	35.38	11.38	1.69	25.69	11.69	10.00	3.74
	0013	1	613	933	67.00	410	625	32,708	27,214	2.20	8.95	23.48	32.60	1.86	19.26	11.66	3.00	0.84
	0013	2	370	564	34.00	125	191	36,058	26,964	2.29	9.27	31.41	29.44	9.16	12.00	6.43	4.00	4.71
	0009	9	196	278	35.00	68	97	28,125	20,850	12.45	28.11	36.55	11.65	11.24	0.00	0.00	0.00	12.01
	0012	9	64	81	28.00	17	22	86,498	75,761	7.79	9.09	9.09	24.68	0.00	33.77	15.58	0.00	11.61
	0012	1	586	892	44.00	257	392	42,054	33,125	10.78	25.22	18.32	26.08	5.17	10.78	3.66	9.00	42.82
	0010	9	484	768	59.00	285	453	29,942	25,909	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0011	1	227	485	51.00	115	247	22,500	17,216	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.00	16.20
	0012	2	435	645	77.00	334	496	47,986	38,587	0.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00

Ohio EPA
Division of Emergency & Remedial Response
Summary Report of 1990 Census Income, Education, Unemployment and Poverty Level

RADIUS (MILES)	BLOCK GROUP ID#		FAMILIES WITHIN BLKGRP	HOUSEHOLDS WITHIN BLKGRP	% AREA WITHIN RADIUS	FAMILIES WITHIN RADIUS	HOUSEHOLDS WITHIN RADIUS	FAMILY MEDIAN INCOME	HOUSEHOLD MEDIAN INCOME	GRADES 1 - 9	GRADES 10 - 12	HIGHSCHOOL GRADUATE	SOME COLLEGE	ASSOCIATE DEGREE	BACHELOR DEGREE	GRADUATE DEGREE	PERCENT WORKFORCE UNEMP.	PERCENT POPULATION BELOW POV.
2.00-3.00	0010	2	561	920	28.00	157	257	30,117	24,924	25.53	11.55	44.98	3.95	1.82	8.51	3.65	4.00	4.61
	0011	2	528	776	99.00	522	768	40,439	32,216	2.59	18.33	38.25	22.11	1.00	12.35	5.38	1.00	7.53
	0021	8	312	441	21.00	65	92	46,480	39,338	11.42	18.88	41.49	14.92	4.90	2.10	6.29	0.00	25.35
	0021	7	364	502	31.00	112	155	48,235	40,179	6.36	6.36	32.41	17.53	8.52	21.37	7.44	4.00	2.39
2.00-3.00			13,276	18,850		5,774	8,340											
3.00-4.00	0017	9	109	130	37.00	40	48	28,214	22,708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	17.84
	0027	4	372	423	1.00	3	4	34,853	32,941	10.59	0.00	25.29	30.00	5.29	24.12	4.71	8.00	22.87
	0029	9	11	12	6.00	0	0	41,250	45,769	0.00	0.00	43.33	0.00	40.00	16.67	0.00	0.00	0.00
	0027	4	372	423	2.00	7	8	34,853	32,941	10.59	0.00	25.29	30.00	5.29	24.12	4.71	8.00	22.87
	0029	1	71	83	5.00	3	4	30,435	24,803	35.86	12.12	21.21	24.75	0.00	6.06	0.00	0.00	18.47
	0018	9	355	420	77.00	273	323	42,557	39,429	3.12	12.27	55.93	21.00	4.57	0.00	3.12	7.00	3.65
	0019	9	729	863	10.00	72	86	45,021	39,500	6.19	2.72	16.34	23.02	4.21	35.15	12.38	0.00	12.06
	0015	1	218	270	78.00	170	210	26,641	25,598	23.65	29.39	15.20	6.08	2.03	13.18	10.47	9.00	56.64
	0023	9	184	231	10.00	18	23	38,333	33,036	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00
	0016	1	281	345	14.00	39	48	21,339	18,480	16.77	16.77	18.04	26.11	19.62	2.69	0.00	8.00	5.20
	0019	4	259	306	94.00	243	287	29,755	29,592	5.19	31.60	27.06	21.21	4.98	7.14	2.81	12.00	40.24
	0018	1	400	511	4.00	16	20	29,226	26,250	13.28	17.19	54.69	8.59	6.25	0.00	0.00	26.00	31.85
	0018	1	400	511	11.00	44	56	29,226	26,250	13.28	17.19	54.69	8.59	6.25	0.00	0.00	26.00	31.85
	0019	9	729	863	26.00	189	224	45,021	39,500	6.19	2.72	16.34	23.02	4.21	35.15	12.38	0.00	12.06
	0015	3	265	351	53.00	140	186	25,357	22,390	9.96	17.80	59.32	4.87	2.97	2.75	2.33	4.00	5.60
	0024	9	707	1,004	8.00	56	80	33,229	30,548	3.37	14.12	47.80	18.78	6.93	7.90	1.10	7.00	3.95
	0019	2	341	476	70.00	238	333	35,197	30,875	14.53	33.76	32.48	6.41	5.98	4.27	2.56	19.00	16.33
	0014	1	743	1,191	42.00	312	500	27,764	22,173	21.99	11.34	27.15	18.56	2.75	13.75	4.47	6.00	38.42
	0024	1	601	738	35.00	210	258	40,114	36,699	2.90	8.07	49.95	19.75	6.93	9.41	3.00	5.00	1.27
	0019	3	252	291	10.00	25	29	37,788	36,951	28.02	32.15	30.38	7.08	0.00	0.00	2.36	23.00	25.94
	0012	9	64	81	58.00	37	46	86,498	75,761	7.79	9.09	9.09	24.68	0.00	33.77	15.58	0.00	11.61
	0023	4	366	406	5.00	18	20	46,923	44,948	26.32	38.95	10.53	13.68	0.00	10.53	0.00	60.00	65.67
	0009	9	196	278	7.00	13	19	28,125	20,850	12.45	28.11	36.55	11.65	11.24	0.00	0.00	0.00	12.01
	0019	8	26	27	99.00	25	26	45,250	45,250	0.00	12.50	37.50	0.00	35.71	0.00	14.29	0.00	0.00
	0010	9	484	768	13.00	62	99	29,942	25,909	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0012	2	435	645	23.00	100	148	47,986	38,587	0.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
	0021	1	234	451	99.00	231	446	38,207	23,562	2.50	14.87	53.76	15.02	9.28	2.36	2.21	2.00	7.28
	0011	2	528	776	1.00	5	7	40,439	32,216	2.59	18.33	38.25	22.11	1.00	12.35	5.38	1.00	7.53
	0020	2	314	376	31.00	97	116	35,739	33,973	9.18	8.05	8.68	26.16	2.14	25.53	20.25	4.00	14.62
	0021	8	312	441	51.00	159	224	46,480	39,338	11.42	18.88	41.49	14.92	4.90	2.10	6.29	0.00	25.35
	0021	3	440	495	7.00	30	34	69,904	67,768	15.92	30.20	26.12	14.08	1.22	8.78	3.67	23.00	40.92
	0021	7	364	502	69.00	251	346	48,235	40,179	6.36	6.36	32.41	17.53	8.52	21.37	7.44	4.00	2.39
	0020	1	398	474	9.00	35	42	36,122	33,696	14.39	37.37	29.55	10.61	3.03	3.03	2.02	8.00	26.01
	0021	5	286	482	76.00	217	366	35,000	29,000	10.24	0.00	18.67	9.04	0.00	22.89	39.16	0.00	10.40
	0021	3	440	495	1.00	4	4	69,904	67,768	15.92	30.20	26.12	14.08	1.22	8.78	3.67	23.00	40.92
	0021	2	240	287	1.00	2	2	40,568	34,063	6.83	0.00	28.51	15.26	9.24	21.69	18.47	25.00	9.46
3.00-4.00			12,526	16,426		3,384	4,672											
			46,200	66,816		17,521	26,133											

Ohio EPA
Division of Emergency & Remedial Response
Housing Summary Report of 1990 Census Block Group within Radius

RADIUS (MILES)	BLOCK GROUP ID#		% AREA WITHIN RADIUS	HOUSING WITHIN BLKGRP	HOUSING WITHIN RADIUS	HOUSING UNITS VACCANT	HOUSING UNITS OCCUPIED	HOUSING OWNER OCCUPIED	WHITE	BLACK	INDIAN	ASIA	OTHER	HOUSING MEDIAN VALUE	HOUSING RENTAL UNITS	WHITE	BLACK	ASIA	INDIAN	OTHER	AVERAGE RENTAL COST
0.00-0.25	0008	3	17.00	399	67	37	362	235	186	47	2	0	0	23,700	127	90	34	1	2	0	217
	0002	1	10.00	165	16	20	145	35	32	3	0	0	0	18,300	110	106	4	0	0	0	165
	0002	2	63.00	93	58	24	69	24	18	6	0	0	0	14,999	45	33	12	0	0	0	187
0.00-0.25				657	141	81	576	294	236	56	2	0	0		282	229	50	1	2	0	
0.25-0.50	0008	2	4.00	556	22	44	512	331	259	71	0	1	0	22,900	181	152	27	0	1	1	226
	0008	3	56.00	399	223	37	362	235	186	47	2	0	0	23,700	127	90	34	1	2	0	217
	0002	1	27.00	165	44	20	145	35	32	3	0	0	0	18,300	110	106	4	0	0	0	165
	0009	9	4.00	293	11	15	278	176	171	3	1	1	0	37,800	102	101	0	0	1	0	225
	0002	2	37.00	93	34	24	69	24	18	6	0	0	0	14,999	45	33	12	0	0	0	187
	0001	1	45.00	27	12	5	22	4	1	3	0	0	0	17,500	18	16	1	1	0	0	258
	0001	2	5.00	199	9	16	183	10	8	0	0	1	1	32,500	173	135	34	3	1	0	171
	0003	1	85.00	212	180	48	164	86	18	68	0	0	0	16,100	78	23	53	0	2	0	178
	0003	2	2.00	447	8	32	415	292	93	199	0	0	0	29,300	123	39	84	0	0	0	226
0.25-0.50				2,391	543	241	2,150	1,193	786	400	3	3	1		957	695	249	5	7	1	
0.50-1.00	0002	1	46.00	165	75	20	145	35	32	3	0	0	0	18,300	110	106	4	0	0	0	165
	0008	2	73.00	556	405	44	512	331	259	71	0	1	0	22,900	181	152	27	0	1	1	226
	0007	1	65.00	478	310	61	417	259	64	195	0	0	0	16,400	158	54	104	0	0	0	199
	0008	1	12.00	405	48	13	392	319	318	1	0	0	0	37,900	73	70	2	0	1	0	267
	0007	2	2.00	1,078	21	115	963	498	296	198	1	0	3	23,000	465	214	247	2	0	2	228
	0006	1	28.00	1,173	328	202	971	449	283	161	1	2	2	23,300	522	301	214	3	1	3	230
	0008	3	26.00	399	103	37	362	235	186	47	2	0	0	23,700	127	90	34	1	2	0	217
	0009	1	1.00	1,071	10	33	1,038	808	789	11	5	1	2	40,100	230	215	14	0	1	0	306
	0009	9	18.00	293	52	15	278	176	171	3	1	1	0	37,800	102	101	0	0	1	0	225
	0006	2	5.00	991	49	111	880	354	292	57	3	1	1	33,700	526	370	148	4	3	1	237
	0001	1	55.00	27	14	5	22	4	1	3	0	0	0	17,500	18	16	1	1	0	0	258
	0005	1	34.00	1,361	462	180	1,181	306	285	20	1	0	0	31,700	875	736	133	1	2	3	239
	0001	2	95.00	199	189	16	183	10	8	0	0	1	1	32,500	173	135	34	3	1	0	171
	0003	1	6.00	212	12	48	164	86	18	68	0	0	0	16,100	78	23	53	0	2	0	178
	0003	1	9.00	212	19	48	164	86	18	68	0	0	0	16,100	78	23	53	0	2	0	178
	0003	3	100.00	425	425	89	336	133	81	52	0	0	0	20,300	203	127	75	0	1	0	229
	0003	2	98.00	447	438	32	415	292	93	199	0	0	0	29,300	123	39	84	0	0	0	226
	0010	9	2.00	785	15	17	768	465	457	7	0	0	1	47,100	303	293	10	0	0	0	273
	0005	2	8.00	1,153	92	95	1,058	619	600	17	0	2	0	39,100	439	396	38	4	1	0	242
	0004	1	39.00	599	233	70	529	256	235	21	0	0	0	28,500	273	223	45	0	2	3	252
	0010	1	15.00	729	109	29	700	466	436	30	0	0	0	35,600	234	204	26	1	2	1	241
0.50-1.00				12,758	3,409	1,280	11,478	6,187	4,922	1,232	14	9	10		5,291	3,888	1,346	20	23	14	
1.00-2.00	0017	9	14.00	133	18	3	130	96	95	1	0	0	0	46,900	34	34	0	0	0	0	236
	0018	2	38.00	678	257	22	656	490	472	13	3	1	1	51,800	166	157	8	1	0	0	303
	0016	2	49.00	532	260	38	494	398	332	64	1	0	1	25,800	96	70	25	0	0	1	203
	0008	1	85.00	405	344	13	392	319	318	1	0	0	0	37,900	73	70	2	0	1	0	267
	0015	2	10.00	423	42	29	394	284	282	0	1	1	0	24,600	110	110	0	0	0	0	218
	0008	2	18.00	556	100	44	512	331	259	71	0	1	0	22,900	181	152	27	0	1	1	226
	0002	1	16.00	165	26	20	145	35	32	3	0	0	0	18,300	110	106	4	0	0	0	165
	0007	1	35.00	478	167	61	417	259	64	195	0	0	0	16,400	158	54	104	0	0	0	199

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RADIUS (MILES)	BLOCK GROUP ID#		% AREA WITHIN RADIUS	HOUSING WITHIN BLKGRP	HOUSING WITHIN RADIUS	HOUSING UNITS VACCANT	HOUSING UNITS OCCUPIED	HOUSING OWNER OCCUPIED	WHITE	BLACK	INDIAN	ASIA	OTHER	HOUSING MEDIAN VALUE	HOUSING RENTAL UNITS	WHITE	BLACK	ASIA	INDIAN	OTHER	AVERAGE RENTAL COST
1.00-2.00	0007	2	78.00	1,078	840	115	963	498	296	198	1	0	3	23,000	465	214	247	2	0	2	228
	0009	1	58.00	1,071	621	33	1,038	808	789	11	5	1	2	40,100	230	215	14	0	1	0	306
	0009	2	25.00	839	209	22	817	658	655	3	0	0	0	48,300	159	155	3	0	1	0	270
	0008	2	5.00	556	27	44	512	331	259	71	0	1	0	22,900	181	152	27	0	1	1	226
	0006	1	52.00	1,173	609	202	971	449	283	161	1	2	2	23,300	522	301	214	3	1	3	230
	0006	2	64.00	991	634	111	880	354	292	57	3	1	1	33,700	526	370	148	4	3	1	237
	0009	9	36.00	293	105	15	278	176	171	3	1	1	0	37,800	102	101	0	0	1	0	225
	0013	1	33.00	991	327	58	933	629	617	9	0	2	1	48,700	304	279	20	3	1	1	308
	0005	1	66.00	1,361	898	180	1,181	306	285	20	1	0	0	31,700	875	736	133	1	2	3	239
	0013	2	66.00	572	377	8	564	428	425	3	0	0	0	51,000	136	133	2	1	0	0	281
	0005	2	92.00	1,153	1,060	95	1,058	619	600	17	0	2	0	39,100	439	396	38	4	1	0	242
	0010	9	25.00	785	196	17	768	465	457	7	0	0	1	47,100	303	293	10	0	0	0	273
	0004	1	61.00	599	365	70	529	256	235	21	0	0	0	28,500	273	223	45	0	2	3	252
	0010	1	85.00	729	619	29	700	466	436	30	0	0	0	35,600	234	204	26	1	2	1	241
	0004	2	100.00	751	751	44	707	504	492	10	0	0	2	36,900	203	184	18	0	1	0	276
	0012	1	56.00	927	519	35	892	614	605	6	1	1	1	66,400	278	265	11	1	0	1	319
	0010	2	72.00	981	706	61	920	436	421	12	1	1	1	39,900	484	431	47	3	3	0	282
	0011	1	49.00	503	246	18	485	299	293	4	1	0	1	52,700	186	175	10	0	1	0	164
1.00-2.00				18,723	10,323	1,387	17,336	10,508	9,465	991	20	15	17		6,828	5,580	1,183	24	23	18	
2.00-3.00	0017	9	28.00	133	37	3	130	96	95	1	0	0	0	46,900	34	34	0	0	0	0	236
	0018	9	4.00	428	17	8	420	365	341	22	1	1	0	64,500	55	53	2	0	0	0	302
	0018	2	61.00	678	413	22	656	490	472	13	3	1	1	51,800	166	157	8	1	0	0	303
	0018	9	7.00	428	29	8	420	365	341	22	1	1	0	64,500	55	53	2	0	0	0	302
	0015	1	1.00	275	2	5	270	202	201	1	0	0	0	32,600	68	67	0	1	0	0	259
	0016	1	86.00	375	322	30	345	269	269	0	0	0	0	18,300	76	76	0	0	0	0	191
	0018	1	85.00	515	437	4	511	404	398	4	0	2	0	54,300	107	101	5	1	0	0	328
	0016	2	51.00	532	271	38	494	398	332	64	1	0	1	25,800	96	70	25	0	0	1	203
	0015	1	2.00	275	5	5	270	202	201	1	0	0	0	32,600	68	67	0	1	0	0	259
	0015	2	90.00	423	380	29	394	284	282	0	1	1	0	24,600	110	110	0	0	0	0	218
	0015	3	47.00	380	178	29	351	286	284	2	0	0	0	24,200	65	64	1	0	0	0	220
	0019	4	2.00	313	6	7	306	260	248	12	0	0	0	42,500	46	43	3	0	0	0	316
	0008	1	4.00	405	16	13	392	319	318	1	0	0	0	37,900	73	70	2	0	1	0	267
	0009	1	41.00	1,071	439	33	1,038	808	789	11	5	1	2	40,100	230	215	14	0	1	0	306
	0019	2	26.00	530	137	54	476	276	264	12	0	0	0	63,100	200	184	10	3	2	1	358
	0015	1	4.00	275	11	5	270	202	201	1	0	0	0	32,600	68	67	0	1	0	0	259
	0007	2	21.00	1,078	226	115	963	498	296	198	1	0	3	23,000	465	214	247	2	0	2	228
	0014	1	58.00	1,257	729	66	1,191	699	678	20	0	1	0	53,400	492	452	32	6	2	0	277
	0006	1	20.00	1,173	234	202	971	449	283	161	1	2	2	23,300	522	301	214	3	1	3	230
	0009	2	75.00	839	629	22	817	658	655	3	0	0	0	48,300	159	155	3	0	1	0	270
	0006	2	32.00	991	317	111	880	354	292	57	3	1	1	33,700	526	370	148	4	3	1	237
	0013	1	67.00	991	663	58	933	629	617	9	0	2	1	48,700	304	279	20	3	1	1	308
	0013	2	34.00	572	194	8	564	428	425	3	0	0	0	51,000	136	133	2	1	0	0	281
	0009	9	35.00	293	102	15	278	176	171	3	1	1	0	37,800	102	101	0	0	1	0	225
	0012	9	28.00	87	24	6	81	71	67	0	1	2	1	73,200	10	10	0	0	0	0	425
	0012	1	44.00	927	407	35	892	614	605	6	1	1	1	66,400	278	265	11	1	0	1	319
	0010	9	59.00	785	463	17	768	465	457	7	0	0	1	47,100	303	293	10	0	0	0	273
	0011	1	51.00	503	256	18	485	299	293	4	1	0	1	52,700	186	175	10	0	1	0	164
	0012	2	77.00	679	522	34	645	496	489	4	1	2	0	73,600	149	148	1	0	0	0	365

Ohio EPA
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RADIUS (MILES)	BLOCK GROUP ID#	% AREA WITHIN RADIUS	HOUSING WITHIN BLKGRP	HOUSING WITHIN RADIUS	HOUSING UNITS VACCANT	HOUSING UNITS OCCUPIED	HOUSING OWNER OCCUPIED	WHITE	BLACK	INDIAN	ASIA	OTHER	HOUSING MEDIAN VALUE	HOUSING RENTAL UNITS	WHITE	BLACK	ASIA	INDIAN	OTHER	AVERAGE RENTAL COST
2.00-3.00	0010 2	28.00	981	274	61	920	436	421	12	1	1	1	39,900	484	431	47	3	3	0	282
	0011 2	99.00	810	801	34	776	554	548	4	0	2	0	76,000	222	209	11	0	0	2	293
	0021 8	21.00	450	94	9	441	277	272	4	0	1	0	76,300	164	159	3	1	1	0	268
	0021 7	31.00	515	159	13	502	323	308	13	0	1	1	76,600	179	171	6	1	1	0	335
2.00-3.00			19,967	8,794	1,117	18,850	12,652	11,913	675	23	24	17		6,198	5,297	837	33	19	12	
3.00-4.00	0017 9	37.00	133	49	3	130	96	95	1	0	0	0	46,900	34	34	0	0	0	0	236
	0027 4	1.00	434	4	11	423	388	369	18	1	0	0	55,400	35	32	0	1	1	1	258
	0029 9	6.00	12	0	0	12	12	12	0	0	0	0	60,000	0	0	0	0	0	0	0
	0027 4	2.00	434	8	11	423	388	369	18	1	0	0	55,400	35	32	0	1	1	1	258
	0029 1	5.00	83	4	0	83	76	72	4	0	0	0	48,900	7	7	0	0	0	0	150
	0018 9	77.00	428	329	8	420	365	341	22	1	1	0	64,500	55	53	2	0	0	0	302
	0019 9	10.00	883	88	20	863	740	713	23	1	2	1	67,900	123	118	5	0	0	0	331
	0015 1	78.00	275	214	5	270	202	201	1	0	0	0	32,600	68	67	0	1	0	0	259
	0023 9	10.00	239	23	8	231	177	174	1	0	1	1	56,300	54	54	0	0	0	0	317
	0016 1	14.00	375	52	30	345	269	269	0	0	0	0	18,300	76	76	0	0	0	0	191
	0019 4	94.00	313	294	7	306	260	248	12	0	0	0	42,500	46	43	3	0	0	0	316
	0018 1	4.00	515	20	4	511	404	398	4	0	2	0	54,300	107	101	5	1	0	0	328
	0018 1	11.00	515	56	4	511	404	398	4	0	2	0	54,300	107	101	5	1	0	0	328
	0019 9	26.00	883	229	20	863	740	713	23	1	2	1	67,900	123	118	5	0	0	0	331
	0015 3	53.00	380	201	29	351	286	284	2	0	0	0	24,200	65	64	1	0	0	0	220
	0024 9	8.00	1,057	84	53	1,004	694	678	13	0	3	0	56,400	310	300	7	2	1	0	331
	0019 2	70.00	530	371	54	476	276	264	12	0	0	0	63,100	200	184	10	3	2	1	358
	0014 1	42.00	1,257	527	66	1,191	699	678	20	0	1	0	53,400	492	452	32	6	2	0	277
	0024 1	35.00	752	263	14	738	641	632	7	0	1	1	65,700	97	92	2	0	1	2	343
	0019 3	10.00	316	31	25	291	266	263	3	0	0	0	69,300	25	25	0	0	0	0	331
	0012 9	58.00	87	50	6	81	71	67	0	1	2	1	73,200	10	10	0	0	0	0	425
	0023 4	5.00	412	20	6	406	389	383	2	0	4	0	96,500	17	17	0	0	0	0	375
	0009 9	7.00	293	20	15	278	176	171	3	1	1	0	37,800	102	101	0	0	1	0	225
	0019 8	99.00	27	26	0	27	26	26	0	0	0	0	64,100	1	1	0	0	0	0	475
	0010 9	13.00	785	102	17	768	465	457	7	0	0	1	47,100	303	293	10	0	0	0	273
	0012 2	23.00	679	156	34	645	496	489	4	1	2	0	73,600	149	148	1	0	0	0	365
	0021 1	99.00	460	455	9	451	254	248	4	0	2	0	72,500	197	190	5	1	1	0	305
	0011 2	1.00	810	8	34	776	554	548	4	0	2	0	76,000	222	209	11	0	0	2	293
	0020 2	31.00	390	120	14	376	305	299	4	2	0	0	56,700	71	71	0	0	0	0	282
	0021 8	51.00	450	229	9	441	277	272	4	0	1	0	76,300	164	159	3	1	1	0	268
	0021 3	7.00	503	35	8	495	473	457	3	0	12	1	105,700	22	22	0	0	0	0	425
	0021 7	69.00	515	355	13	502	323	308	13	0	1	1	76,600	179	171	6	1	1	0	335
	0020 1	9.00	478	43	4	474	397	388	8	0	1	0	60,100	77	76	0	0	1	0	285
	0021 5	76.00	507	385	25	482	210	208	2	0	0	0	79,400	272	260	8	2	1	1	316
	0021 3	1.00	503	5	8	495	473	457	3	0	12	1	105,700	22	22	0	0	0	0	425
	0021 2	1.00	295	2	8	287	223	218	2	0	3	0	76,900	64	60	2	2	0	0	401
3.00-4.00			17,008	4,858	582	16,426	12,495	12,167	251	10	58	9		3,931	3,763	123	23	14	8	
			71,504	28,068	4,688	66,816	43,329	39,489	3,605	72	109	54		23,487	19,452	3,788	106	88	53	

Appendix E

APPENDIX E

Geographic Information System 4-Mile Radius Map

ENDANGERED SPECIES REPORT WITHIN RADIUS

ID #	FEDERAL CODE	STATE CODE	CLASS CODE	LOCATION CODE	DISTANCE (MILES)	SCIENTIFIC NAME	COMMON NAME
1		P	SP	C	14.712	FRAXINUS TOMENTOSA	PUMPKIN ASH
2			PC	C	14.596	BIG BLUESTEM PRAIRIE	
3		S	SA	C	14.596	HEMIDACTYLIUM SCUTATUM	FOUR-TOED SALAMANDER
4			PC	C	14.593	LITTLE BLUESTEM PRAIRIE	
5			SA	N	14.520	AMBYSTOMA TIGRINUM	TIGER SALAMANDER
6		T	SP	C	14.456	TRIPHORA TRIANTHOPHORA	THREE-BIRDS-ORCHID
7		P	SP	C	14.456	FRAXINUS TOMENTOSA	PUMPKIN ASH
8			PC	C	14.359	BEECH-SUGAR MAPLE FOREST	
9		P	SP	C	14.273	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
10			SA	N	13.893	AMBYSTOMA TIGRINUM	TIGER SALAMANDER
11			OT	C	12.748	GREAT BLUE HERON COLONY	
12		P	SP	C	12.493	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
13		P	SP	C	11.824	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
14		P	SP	C	12.238	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
15		P	SP	C	11.422	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
16		P	SP	C	11.267	SALIX SERISSIMA	AUTUMN WILLOW
17		P	SP	C	11.267	VACCINIUM MACROCARPON	LARGE CRANBERRY
18		P	SP	N	11.267	ERIOPHORUM VIRGINICUM	TAWNY COTTONGRASS
19		T	SP	C	11.267	MENYANTHES TRIFOLIATA	BUCKBEAN
20		E	SP	C	11.267	CAREX ECHINATA	LITTLE PRICKLY SEDGE
21		S	SA	C	13.997	PORZANA CAROLINA	SORA
22		P	SP	C	9.288	VACCINIUM MACROCARPON	LARGE CRANBERRY
23		P	SP	C	9.061	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
24			OT	C	14.803	GREAT BLUE HERON COLONY	
25		S	SA	N	14.464	RALLUS LIMICOLA	VIRGINIA RAIL
26		P	SP	C	7.241	POPULUS HETEROPHYLLA	SWAMP COTTONWOOD
27		T	SA	N	4.433	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
28		P	SP	C	3.484	PHEGOPTERIS CONNECTILIS	LONG BEECH-FERN
29			OT	C	4.403	BLACK WILLOW	
30		P	SP	C	12.145	JUNCUS BALTICUS	BALTIC RUSH
31		P	SP	U	12.286	CYPERUS SCHWEINITZII	SCHWEINITZ'S UMBRELLA-SEDGE
32		T	SP	C	6.288	MYRIOPHYLLUM SIBIRICUM	AMERICAN WATER-MILFOIL
33		S	SA	C	6.288	ETHEOSTOMA EXILE	IOWA DARTER
34			OT	N	7.856	TURKEY VULTURE ROOST	
35		T	SP	C	7.733	SCIRPUS EXPANSUS	WOODLAND BULRUSH
36		E	SP	C	7.733	GLYCERIA ACUTIFLORA	SHARP-GLUMED MANNA-GRASS
37	F2	P	SP	N	7.754	JUGLANS CINEREA	BUTTERNUT
38		T	SP	C	6.777	SCIRPUS EXPANSUS	WOODLAND BULRUSH
39		T	SP	C	7.945	MELANTHIUM VIRGINICUM	BUNCHFLOWER
40		S	SA	N	7.945	RALLUS LIMICOLA	VIRGINIA RAIL
41		S	SA	C	7.930	PORZANA CAROLINA	SORA
42			OT	U	9.836	AMERICAN CHESTNUT	
43			SA	N	8.543	DENDROICA VIRENS	BLACK-THROATED GREEN WARBLER
44			GF	C	11.295	CLIFFS	
45			SA	C	9.072	DENDROICA VIRENS	BLACK-THROATED GREEN WARBLER
46		T	SP	N	13.444	LECHEA INTERMEDIA	ROUND-FRUITED PINWEED
47			SA	N	9.842	NOTROPIS AMBLOPS	BIGEYE CHUB

ENDANGERED SPECIES REPORT WITHIN RADIUS

ID #	FEDERAL CODE	STATE CODE	CLASS CODE	LOCATION CODE	DISTANCE (MILES)	SCIENTIFIC NAME	COMMON NAME
48			SA	C	13.684	VIREO SOLITARIUS	SOLITARY VIREO
49		P	SP	N	13.685	CORALLORHIZA MACULATA	SPOTTED CORAL-ROOT
50			OT	N	13.534	EASTERN HEMLOCK	
51		E	SA	N	13.909	DENDROICA MAGNOLIA	MAGNOLIA WARBLER
52	F2	E	SA	G	11.872	CRYPTOBRANCHUS ALLEGANIENSIS	HELLBENDER
53			SA	C	14.135	TRACHEMYS SCRIPTA ELEGANS	RED-EARED SLIDER
54		E	SA	C	14.135	WILSONIA CANADENSIS	CANADA WARBLER
55		P	SP	N	12.363	CASTANEA DENTATA	AMERICAN CHESTNUT
56			GF	C	12.363	WATERFALL	
57			SA	C	14.773	DENDROICA VIRENS	BLACK-THROATED GREEN WARBLER
58			GF	C	14.681	STREAM GORGE	
59		E	SA	C	14.459	WILSONIA CANADENSIS	CANADA WARBLER
60		E	SA	C	14.663	DENDROICA MAGNOLIA	MAGNOLIA WARBLER
61		T	SP	C	14.592	ACTAEA RUBRA	RED BANEBERRY
62			OT	C	12.842	EASTERN REDCEDAR	
63		T	SP	C	13.344	SCIRPUS EXPANSUS	WOODLAND BULRUSH

CODE DEFINITIONS FOR ENDANGERED SPECIES REPORT

Locational accuracy, status and class codes are defined as follows:

Locational Accuracy:

C =	Exact location
N =	Location is accurate to at least 1 sq. mi. (<= 1 sq. mi.)
U =	General location, accuracy > 1 square mile
G =	Center of a population with several collection sites

Federal Status:

FE =	Endangered
FT =	Threatened
F1 =	F&WS has on file substantial information on vulnerability and threat(s) to support the appropriateness of proposing to list these taxa as endangered or threatened species. Additional data are being gathered, but development and publication of proposed rules could take some years.
F2 =	F&WS has information which indicates proposing to list these taxa as endangered or threatened species is possibly appropriate, but substantial data on biological vulnerability and threat(s) are not currently known or on file to support in the immediate preparation of rules. Further research usually will be necessary.

State Status - Animals:

E =	State Endangered
T =	Threatened (not a legal designation)
S =	Special interest (not a legal designation)

*Animals without a status are inventoried by the Division of Natural Areas and Preserves, but have not been assigned a status by the Ohio Division of Wildlife.

State Status - Plants:

E =	State Endangered
T =	State Threatened
P =	Potentially Threatened (not a legal designation)
X =	Presumed Extirpated from Ohio
A =	A species recently added to the state inventory, a stated endangerment status has not yet been determined.

Class:

GF =	Geologic Feature
OT =	Other
PC =	Plant Community
SA =	Special Animal
SP =	Special Plant

Appendix F

APPENDIX F

Well Logs in Vicinity of Site

2 002 200

397 600N

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
OHIO WATER RESOURCES BOARD
Department of Public Works
553 E. Broad St., Columbus 15, Ohio

2032-52
No. 38352

County Richland Township Madison Section of Township or Lot Number 23

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4¼" Length of casing Old Well
Type of screen None Length of screen
Type of pump
Capacity of pump
Depth of pump setting

PUMPING TEST

Pumping rate 9 G.P.M. Duration of test 1 hrs.
Drawdown 0 ft. Date 12-30-52
Developed capacity
Static level of completed well 45' ft.
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
old well to 52'		
Yellow Sand Rock	52	85'

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Non-responsive

W. E.

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO.
Address MANSFIELD, OHIO

Date 12-31-52
Signed M. E. Saltzgaber
Per. R. M. Saltzgaber

2032-52

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

203, -43

No. 176186

County Richland Township Madison Section of Township 23

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4 1/4 Length of casing 44'-9"
Type of screen none Length of screen
Type of pump
Capacity of pump
Depth of pump setting
Date of completion

BAILING OR PUMPING TEST

Pumping rate 21 G.P.M. Duration of test 1 hrs.
Drawdown 2 ft. Date 6-3-56
Developed capacity
Static level—depth to water 23 ft.
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	1 Ft.
Top Soil		
Yellow clay, Sand & gravel	1	15
Blue " " "	15	36
Soft yellow Sand rock	36	43
Hard " " "	43	60

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W.

E.

Non-responsive

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO.
Address 32 SO. ADAMS STREET MANSFIELD, OHIO

Date 6-8-56
Signed R. M. Saltzgaber

203-43

2 001 700

399 700/N

STATE OF OHIO
OHIO WATER RESOURCES BOARD
DEPARTMENT OF PUBLIC WORKS
706 Ohio Depts. Bldg., Columbus, Ohio

No 15864

192-60

WELL LOG AND DRILLING REPORT

County Richland Township Madison Section of Township or Lot Number 22 23

Owner

Location o

[redacted]

CASING RECORD

Casing Diameter 4"

Length of Casing 63'

Length of Screen

Type of Screen

Type of Pump Ejecto

Capacity of Pump 6 gpm

Depth of Pump Setting 75'

PUMPING TEST

Date 9-24-53

Developed Capacity 20 gpm

Duration of Test 1 Hrs.

Pumping Rate 20 G.P.M.

Drawdown 23 Ft.

Static Level of Completed Well 48 Ft.

WELL LOG

Formations	From	To
	0 Feet	Ft.
clay & gravel	0	60'
yellow ss	60'	87'

MAP SHOWING LOCATION

Locate in reference to numbered State Highways, St. intersections

[redacted]

See Reverse Side for Instructions

Drilling Firm Duncan Drilling Co. Date 1-20-54

Address Perrysville, O

192-60

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

189-175

No. 218054

County Richland Township Madison Section of Township 22

Owner Mansfield Asphalt Address R. 153 Orange St. - Mansfield, O

Location of property Same as Address

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 175'-6½"
Type of screen Brass Length of screen 20'
Type of pump Deep Well Submersible
Capacity of pump
Depth of pump setting
Date of completion

BAILING OR PUMPING TEST

Pumping rate 255 G.P.M. Duration of test 48 hrs.
Drawdown 24 ft. Date April 29, 1959
Developed capacity approx 10 gpm
Static level—depth to water 63' ft.
Pump installed by Well Driller

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Cinder fill	0 Feet	3 Ft.
Yellow clay Sand + gravel	3	10
Blue " " "	10	40
Course gravel, Sand and Some blue clay (dry)	40	42
Soft Blue clay Sand and gravel (muck)	42	95
Gravel Sand + clay	95	175
Sand, gravel (large) with water	175	200

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

Section 22
Mansfield
Ohio

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO. Date April 25 1959
Address 57 SOUTH FRANKLIN AVE. MANSFIELD, OHIO Signed R M Saltzgaber

189-175

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

PLEASE USE PENCIL OR TYPEWRITER. DO NOT USE INK.

188-210

No. 237405

County Richland Township Madison Section of Township 22

Non-responsive

Owner

Location

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 211'

Type of screen none Length of screen —

Type of pump Deep Well Turbine

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate 150 G.P.M. Duration of test 4 hrs.

Drawdown 75 ft. Date 4-6-60

Developed capacity

Static level—depth to water 82 ft.

Pump installed by Well Driller

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
old 10" Well 210' Deep		
Sand Rock & Shale	210	323

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Non-responsive

W E.

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO. Date 4-9-60

Address 57 SOUTH FRANKLIN AVE. MANSFIELD, OHIO Signed R M Saltzgaber

188-210

1996 5[illegible]

404 500N

125 - 137

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No 150810

County Richland Township Madison Section of Township or Lot Number 15

Owner Taylor Metal Products Co. Address 335 W. Sixth St. Mansfield, Oh

Location of property 130 East Longview Ave in the City of Mansfield Ohio on the South side of street.

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 140'

Type of screen none Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate 30 G.P.M. Duration of test 3 hrs.

Drawdown 24 ft. Date Mar. 7, 1955

Developed capacity

Static level—depth to water 49' ft.

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
Top Soil	1'	15'
Yellow Clay Sand & Gravel	15'	83'
Blue Clay Sand & Gravel (muck)	83'	105'
Gray Sand & Gravel	105'	122'
Blue Clay Sand & Gravel	122'	137'
Soft Gray Rock & Shale	137'	180'
Hard Gray Rock with Streaks of Blue Shale		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

Section 15

City of Mansfield, Ohio.

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO. MANSFIELD, OHIO

Address

Date Mar. 10 1955

Signed R. M. Saltzgaber

125-137

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

1252-12

No. 180966

County Richland Township Madison Section of Township #15?

Non-responsive

Own

Loca

CONSTRUCTION DETAILS

Casing diameter 4 1/4" Length of casing 12

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate 8 G.P.M. Duration of test 1 hrs.

Drawdown 10 ft. Date Oct. 10, 1956

Developed capacity 8 G.P.M.

Static level—depth to water 80' ft.

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
Yellow clay		10
Sand + gravel	10	12
Yellow sandstone	12	106

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Non-responsive

W. E.

S.

See reverse side for instructions

RECEIVED
NOV 2 1956

Drilling Firm Jamison Drilling Co Date Oct. 10, 1956

Address 239 Bowland Rd Signed W. M. Jamison

1252-12

WELL LOG AND DRILLING REPORT

ORIGINAL

124-85

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 189786

County Richland Township Madison Sec 15

Owner [redacted]

Location [redacted]

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4"4 Length of casing 90 ft.

Type of screen ..... Length of screen .....

Type of pump .....

Capacity of pump .....

Depth of pump setting .....

Date of completion .....

BAILING OR PUMPING TEST

Pumping rate 12 G.P.M. Duration of test 1 hrs.

Drawdown 6 ft. Date 1-5-57

Developed capacity .....

Static level—depth to water 95 ft.

Pump installed by .....

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	85 Ft.
Rock	85 ft.	120 ft.

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

Non-responsive

S.

See reverse side for instructions

Drilling Firm Shafer Well Drilling Date 1-5-57

Address 704 Claremont Ave. Signed Frank R. Shafer
Ashland, Ohio

124-85

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

123-72

No. 189766

County Richland Township Madison Section of Township Sec 15

Owner [redacted]

Location [redacted]

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4¼" Length of casing 76'5"

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate 12 G.P.M. Duration of test 1 hrs.

Drawdown 10 ft. Date 9-5-56

Developed capacity

Static level—depth to water 108 ft.

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	72 Ft.
Rock	72 ft	128 ft.

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

Non-responsive

S.

See reverse side for instructions

Drilling Firm Shafer Well Drilling Date 11-1-56

Address 704 Claremont Ave Signed Frank R. Shafer

Ashland, Ohio

123-72

2 050 000
3000 + 300
405 000 N

122-125

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

№ 160668

County Rockland Township Madison Section of Township or Lot Number 15

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4 3/4 Length of casing 85'
Type of screen none Length of screen
Type of pump
Capacity of pump
Depth of pump setting

PUMPING TEST

Pumping rate 12 G.P.M. Duration of test 1 hrs.
Drawdown 9 ft. Date July 28, 1955
Developed capacity
Static level—depth to water 108' ft.
Pump installed by Well driller

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top Soil	0 Feet	1 Ft.
Yellow Clay Sand & gravel	1	18
Blue "	18	40
Yellow Sand & gravel	40	65
Gray clay Sand & gravel	65	73
Yellow Sand & Gravel	73	84
Hard Gray Rock	84	95
" Brown Rock	95	125
" Yellow Sand Rock	125	140

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Non-responsive

W. E.

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO.
Address 32 SO. ADAMS STREET MANSFIELD, OHIO

Date Aug 22 1955
Signed R. M. Saltzgaber

122-125

ORIGINAL

1991 022
500 x 500
404 500 N

121-33

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No. 150474

County Richland Township Madison Section of Township or Lot Number Sec 15

Owner [redacted]

Location [redacted]

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4¼" Length of casing 39'9"

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate 10 G.P.M. Duration of test 1 hrs.

Drawdown 5 ft. Date Apr 23, 195

Developed capacity

Static level—depth to water 25 ft.

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	33 Ft.
Sandstone	33ft.	90ft

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

[redacted]

S.

See reverse side for instructions

Drilling Firm Shafer Well Drilling Date Apr 23, 1955

Address 704 Claremont Ave Signed Frank R Shafer

Ashland, Ohio

121-33

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

Well log 1
No 135928

County Richland Township Madison Section of Township or Lot Number 22

Owner Hartman Electric Mfg. Co Address 175 N. Diamond St. Mansfield, O.

Location of property Corner of E. Fifth St + N. Diamond St. in the City of Mansfield, Ohio

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate 65' G.P.M. Duration of test 24 hrs.

Drawdown 90' ft. Date 10-7-54

Developed capacity

Static level—depth to water 16' ft.

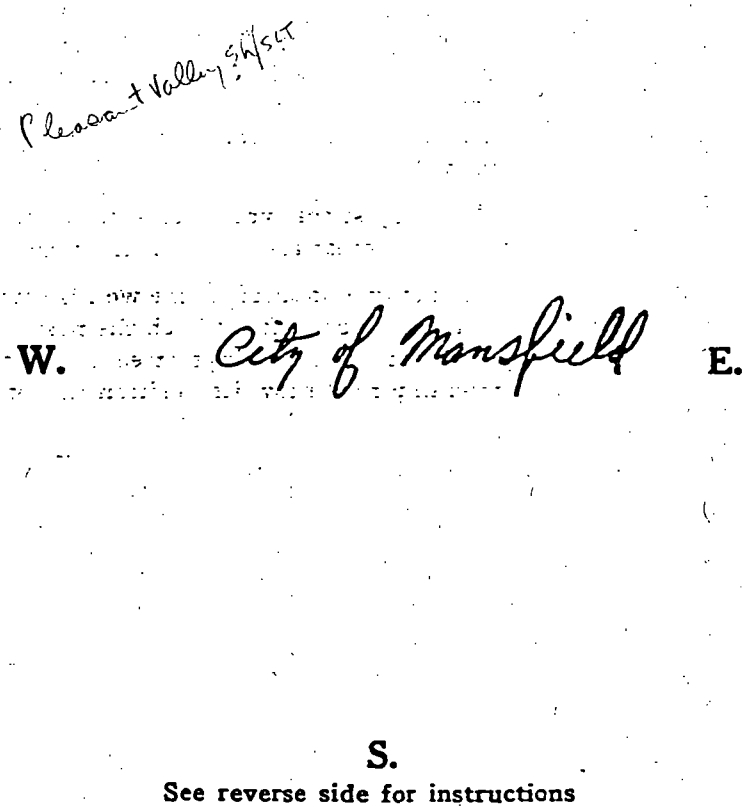
Pump installed by Driller

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Hole was 107' Deep on pit floor	0 Feet	Ft.
Gray Rock & Shale Streak	107'	157'

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm ~~SALTZGABER DRILLING Co~~ MANSFIELD, OHIO

Address

Date Oct 20 1954

Signed R. M. Saltzgaber

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK.

No. 335547
Well log 2

County Richland Township Madison Section of Township 22

Owner Globe Steel Address Mansfield, Ohio

Location of property 238 First Ave, Mansfield, Ohio

CONSTRUCTION DETAILS

Casing diameter 12 Length of casing 112'3¾

Type of screen — Length of screen —

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping Rate 119 G.P.M. Duration of test 24 hrs.

Drawdown 180 ft. Date 12-3-65

Static level-depth to water 70 ft.

Quality (clear, ~~cloudy, taste, odor~~)

Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
clay, sand, gravel	0 Feet	98 Ft.
rock, shale	98	170
rock	170	265
rock, shale	265	300

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

238 First Avenue

Mansfield, Ohio

S.

See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO. Date Dec 4, 1965

Address 57 SOUTH FRANKLIN AVE. MANSFIELD, OHIO Signed R. N. Saltzgaber

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINA

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

Well log 3
No. 222918

County Richland Township Madison Section of Township 22

Ow [redacted]

Lo [redacted]

CONSTRUCTION DETAILS

Casing diameter 4½ Length of casing 73
Type of screen Length of screen
Type of pump
Capacity of pump
Depth of pump setting
Date of completion

BAILING OR PUMPING TEST

Pumping rate 20 G.P.M. Duration of test 1 hr
Drawdown 0 ft. Date 1/7/61
Developed capacity 30 G.P.M.
Static level—depth to water 87
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
yellow clay	0 Feet	10 Ft.
blue mud & gravel	10	54
sand	54	73
yellow sandstone	73	117

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc

N.

[redacted]

W.

S.

See reverse side for instructions

Drilling Firm Jamison Drilling Co. Date 1/7/61
Address 602 Fairoaks Blvd Signed William J. Jamison
Mansfield Ohio

WELL LOG AND DRILLING REPORT

2 2017 - -

393 5-2 W

State of Ohio
OHIO WATER RESOURCES BOARD
Department of Public Works
553 E. Broad St., Columbus 15, Ohio

Well log 4
No. 33196

County Richland Township Madison Section of Township or Lot Number 22

Non-responsive

Own

Loca

CONSTRUCTION DETAILS

Casing diameter 4 Length of casing 53-7

Type of screen — Length of screen

Type of pump Myers 1/2 H.P. Jet

Capacity of pump

Depth of pump setting 431

PUMPING TEST

Pumping rate — G.P.M. Duration of test — hrs.

Drawdown — ft. Date

Developed capacity —

Static level of completed well 30 ft.

Pump installed by Clyde Kendall

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
Clay	0	6
Clay & Gravel	6	53
Sand Rock	53	69
Well in Rock		
Total Depth of well 69'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Black Hand Rd

W

Non-responsive

S.

See reverse side for instructions

Drilling Firm Clyde Kendall

Address 812 Ohio St Ashland O

Date Aug 4th 1948

Signed Clyde Kendall

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

Well log 5
22

No. 171138

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4¼ Length of casing 11'
Type of screen ____ Length of screen ____
Type of pump DEEP WELL
Capacity of pump ____
Depth of pump setting 75'

PUMPING TEST

Pumping rate 9 G.P.M. Duration of test 2 hrs.
Drawdown 10' ft. Date 5-10-56
Developed capacity 9 GPM,
Static level—depth to water 60' ft.
Pump installed by ____

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From 0 Feet	To ____ Ft.
PIT -	0	9
YELLOW SAND STONE	9'	90'

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Road

Non-responsive

E.

S.

See reverse side for instructions

Drilling Firm CAINS DRILLING
Address RT 2 SHILOH O.

Date 5-10-56
Signed W. H. Burkett

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

Well log 6
22

No 171129

Non-responsive

Cou
Own
Loc

CONSTRUCTION DETAILS

Casing diameter 4 1/4 Length of casing 22
Type of screen ____ Length of screen ____
Type of pump DEEP WELL
Capacity of pump ____
Depth of pump setting 20'

PUMPING TEST

Pumping rate 7 G.P.M. Duration of test 2 hrs.
Drawdown Bottom ft. Date 4-7-56
Developed capacity 7 GPM
Static level—depth to water 40' ft.
Pump installed by ____

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	____ Ft.
TOP SOIL	0	1
YELLOW CLAY	1	10
YELLOW SAND	10	
ROCK (SOFT		20
YELLOW SAND STONE	20	95

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Non-responsive

W E

S.

See reverse side for instructions

Drilling Firm CAINS DRILLING
Address Rt 2 Shiloh O

Date 4-7-56
Signed W A Burchett

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

Well log 7
No. 222893

County Richland Township Madison Section of Township 22 W West Part Mansfield

Owner Hokking Construction Co. Address R-3 Fredericktown, O.

Location of property R.D. Mansfield, O.

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 44'
Type of screen Length of screen
Type of pump
Capacity of pump
Depth of pump setting
Date of completion 21 Oct 59

BAILING OR ~~PUMPING~~ TEST

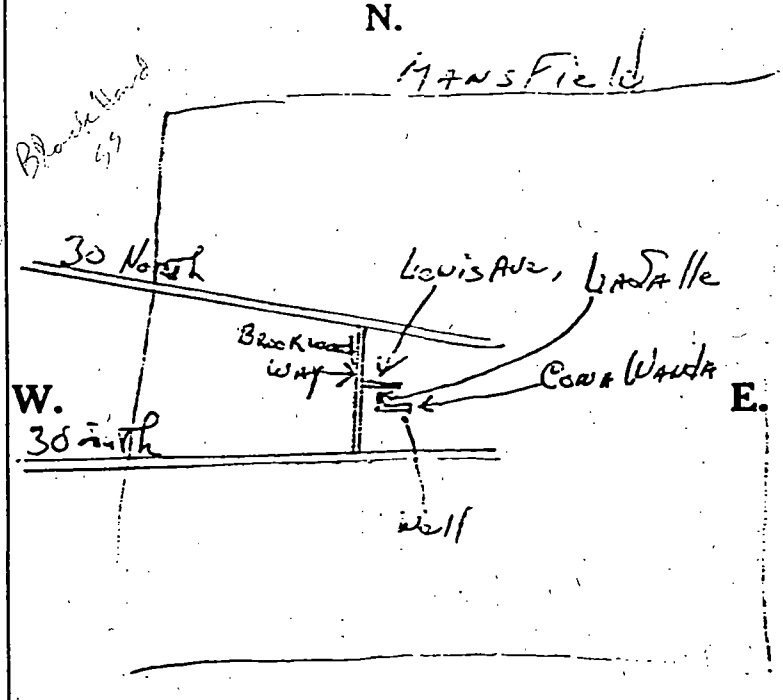
Pumping rate 5 G.P.M. Duration of test ½ hrs.
Drawdown 0 ft. Date
Developed capacity
Static level—depth to water 37 ft.
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	12 Ft.
Mix Clay (Sand)	12	22
Clay	22	36
Mix Clay Sand-Gravel	36	43
Soft Sandstone	43	44
Sandstone	44	66
Water at 46-51-66		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



S.

See reverse side for instructions

Drilling Firm Fred B Fisher Date 22 Oct 59
Address R-2 Fredericktown, O. Signed Fred B Fisher

WELL LOG AND DRILLING REPORT

PLEASE USE PENCIL
OR TYPEWRITER.
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

Well log 8

No. 256408

County Richland Township Madison Section of Township 22

[redacted] Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4" Length of casing 22

Type of screen ______ Length of screen ______

Type of pump ½ H.P. Myers Sub

Capacity of pump 9 G.P.M.

Depth of pump setting 105

Date of completion 12/14/61

BAILING OR PUMPING TEST

Pumping rate 14 G.P.M. Duration of test 1 hrs.

Drawdown 0 ft. Date 12/13/61

Developed capacity 20 G.P.M.

Static level—depth to water 93 ft.

Pump installed by William J. Jamison

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
yellow clay	0 Feet	22 Ft.
sandstone	22	130 — Black Hand SS
shale	130	133 — Pleasant Valley, Sunbury(?)

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

W. E.

S.

See reverse side for instructions

Drilling Firm Jamison Drilling Co. Date 12/14/61

Address 602 Fairoaks Blvd. Mansfield Ohio Signed William J. Jamison

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

Well log 9
No 135906

County Richland Township Madison Section of Township or Lot Number 22

Owner Pepsi-Cola Bottling Co. Address 82 E Dickson Ave. Mansfield, Ohio

Location of property Central Ave in the City of Mansfield, Ohio

CONSTRUCTION DETAILS

Casing diameter 10" Length of casing 112'-6"

Type of screen none Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate 201 G.P.M. Duration of test 24 hrs.

Drawdown 125 ft. Date July 14, 1954

Developed capacity

Static level—depth to water 40' ft.

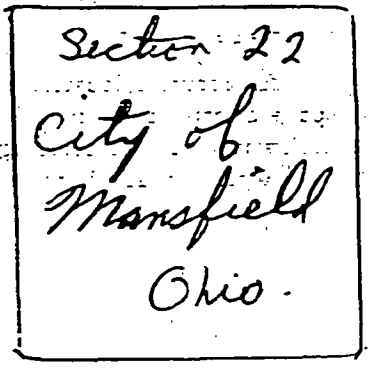
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Yellow clay & Sand	0 Feet	20 Ft.
Blue Clay & gray sand	20'	30'
Gray Sand & 7 in gravel	30'	63'
Blue Clay sand & gravel	63'	89'
Blue gray Sand & gravel with a little clay	89'	95'
Soft blue clay, sand and gravel	95'	100'
Gray sand & gravel and (Blk clay)	100'	102'
Gray Rock & streaks of Shale	102'	210'
Shale Streak of Gray Rock	210'	300'

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm SALTZGABER DRILLING CO. MANSFIELD, OHIO

Address

Date July 19 1954

Signed R. W. Saltzgaber

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

Well log 10
No 122019

22

County Richland Township Madison Section of Township or Lot Number

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 4¼ Length of casing 22'
Type of screen Length of screen
Type of pump
Capacity of pump
Depth of pump setting

PUMPING TEST

Pumping rate 7 G.P.M. Duration of test 1 hrs.
Drawdown NONE ft. Date 4-19-54
Developed capacity 7 G.P.M.
Static level—depth to water 68' ft.
Pump installed by OWNER.

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From 0 Feet	To Ft.
PIT -	0	5
YELLOW SAND STONE (ROTTEN)	5	22'
HARD YELLOW SAND STONE (STREAKS OF RED)	22'	85'
WATER @ 80'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Non-responsive

W. E.

S.

See reverse side for instructions

Drilling Firm CHINS DRILLING CO.
Address RT 2 SHILOH O.

Date 4-19-54
Signed H. K. Burdett

WELL LOG AND DRILLING REPORT

2 005 52
403 OFCN

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

NL
No 76819
Well log 11

County Richland Township Madison Section of Township or Lot Number Lot 22

Own

Loc

Non-responsive

CONSTRUCTION DETAILS

Casing diameter 7 Length of casing 20

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate G.P.M. Duration of test hrs.

Drawdown ft. Date

Developed capacity

Static level—depth to water 60 ft.

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	8 Ft.
Sand	8	10
Sandstone	10	48
Shale	48	95

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Blackhand ss
Pleasant Valley Shale

Not Listed on County Map

W. E.

S.

See reverse side for instructions.

Drilling Firm Eichof Drilling Co. Date Oct 1951

Address Coolridge Hgts Mansfield Signed J Eichof

A

1-145
2-136
3-139
4-201
5-105
6-20

B

1-134
2-98
3-68
4-68
5-44
6-43
7-130
8-81
9-133
10-75
11-90
12-101
13-80
14-97
15-95
16-147
17-50
18-77
19-70
20-57
21-132
22-49
23-117
24-119
25-55
26-109
27-72
28-70
29-90
30-86
31-39
32-61

B con't

33-165
34-58
35-87
36-73
37-114

C

1-10
2-182
3-173
4-70
5-105
6-24
7-48
8-28
9-28
10-155
11-40
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15-26
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C con't

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19-88
20-90
21-225
22-158
23-95
24-225
25-50
26-50
27-30
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29-20
30-60
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32-45
33$_1$-128
33$_2$-145
34-63
35-35
36-34
37-26
38$_3$-40
38$_2$-50
38$_1$-52
39-118
40-60
41-70
42-78
43-54
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46-20
47-133
48-132
49$_1$-211
49$_2$-109
49$_3$-170
49$_4$-229
50$_1$-82
50$_2$-80
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52-135
53-59
54-88
55-34
56-97
57$_1$-12
57$_2$-15
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66-90
67-85
68-33
69-26
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70$_2$-67
71$_1$-50
71$_2$-50
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82-33
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89$_1$-88
89$_2$-88
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94$_2$-35
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136-79
137$_1$-200
137$_2$-290
137$_3$-72
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143-21
144$_1$-105
144$_2$-95
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159$_2$-206
159$_3$-165
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162-185
163-230
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164$_2$-202
164$_3$-187
164$_4$-225
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167-70
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171-216
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177$_2$-147
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187$_2$-188
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229-45
230-130

231-90
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233_1-105
233_2-102
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234_2-85
235_1-195
235_2-86
236-90
237-222
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240-242
241-238
242-137
243-91
244-288
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246-66
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250-86
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256_2-32
257_1-140
257_2-153
258-277
259_1-200
259_2-200
260-143
261-199
262_1-28
262_2-28
263-22
264-22
265-125
266_1-50
266_2-44
267-36
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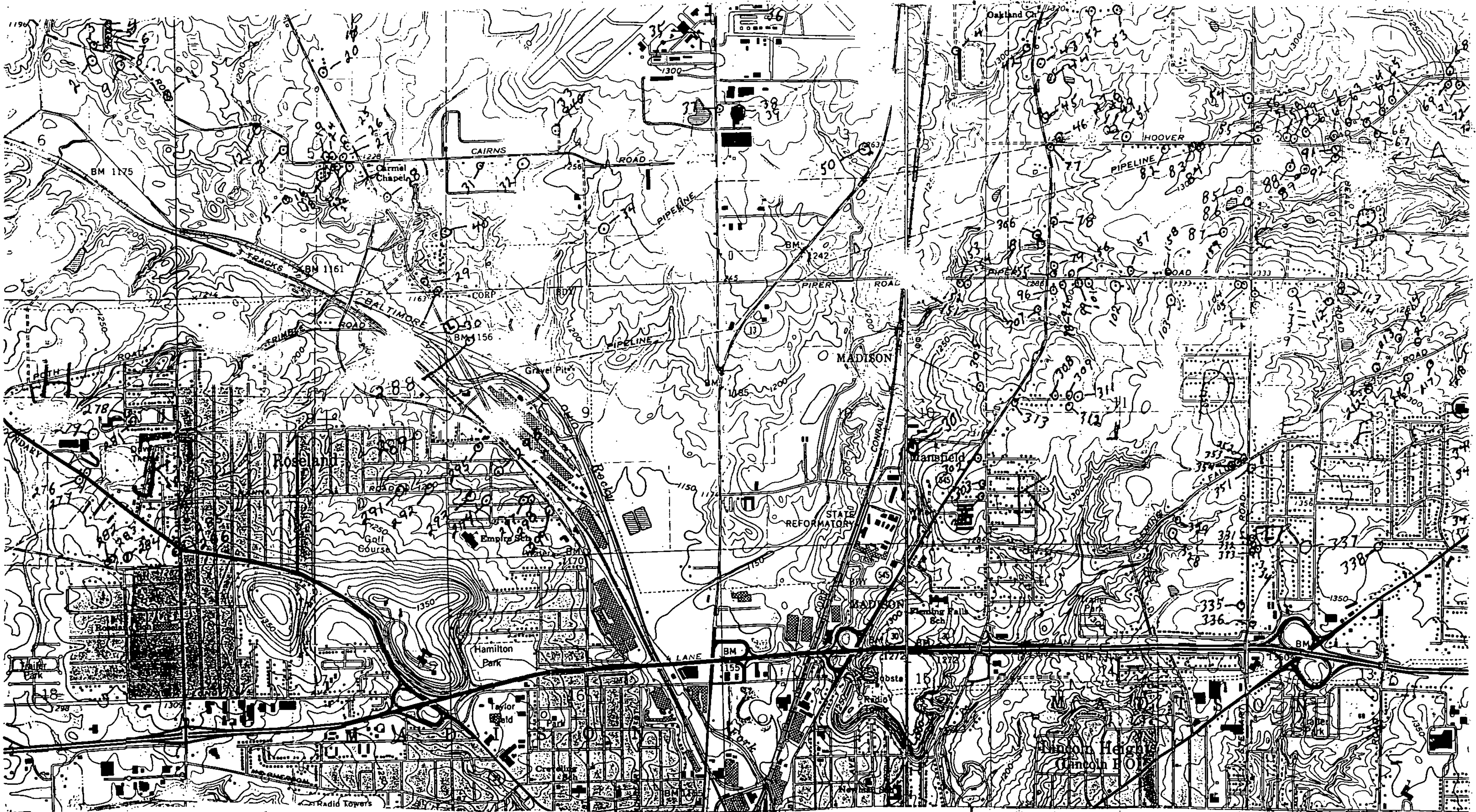
274-190
275-80
276-66
277-70
278-39


Oakland Ch
HOOVER
PIPELINE
CAIRNS
ROAD
Carmel Chapel
BM 1175
3 TRACKS
BM 1161
BALTIMORE
CORP
TRIMBLE
BM 1156
Gravel Pit
PIPER
ROAD
MADISON
Roseland
STATE REFORMATORY
Golf Course
Empire Sch
Mansfield
CONRAIL
Hamilton Park
Taylor Field
Park
Trailer Park
LANE
Fleming Falls Sch
Radio
Radio Towers
Crestline Sch
Lincoln Heights
Park

1 MILE

6000 7000 FEET

1 KILOMETER

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———

Medium-duty ——— Unimproved dirt - - - - - -

U. S. Route ○ State Route

OHIO

QUADRANGLE LOCATION

(LUCAS)
4565 III NW

MANSFIELD NORTH, OHIO

N4045—W8230/7.5

1960

PHOTOREVISED 1982

DMA 4465 I SE-SERIES V852

Revisions shown in purple and woodland compiled in cooperation with State of Ohio agencies from aerial photographs taken 1981 and other sources. This information not field checked. Map edited 1982

Y STANDARDS
VIRGINIA 22092
AVAILABLE ON REQUEST

929